

California **GARDEN**

JUNE - JULY 1970

50 cents



THIS ISSUE OF CALIFORNIA GARDEN IS DEDICATED TO . . .

Alice M. Clark

Floral events . . .

to enjoy Floral Association General Meetings on third Tuesdays.

June 16 (6:30) Annual Meeting and Election Pot Luck Supper. "How Remedies for the Garden?" Robert Lyons. Because of the growing concern about pesticide damage this program should be of interest. Mr. Lyons has been satisfying "remedies" for many years. He is a retired nurseryman.

Chairman: Mrs. A. T. Langille (296) 5707.

to appreciate Admission by Floral Membership Card

July 12 (Sunday 10-5) "The Quietest Garden in Town" Three level garden of George Kompland, 3718 Arizona Street.

Chairman: Mrs. Eugene W. Whigham (296) 2231.

to go

June 7 (Sunday 1-3) Men's Garden Club Floral Building, Balboa Park. Open to the public.

June 24-July 5 (Open daily 9-10) Southern California Exposition Del Mar Fairgrounds. Admission.

June 28 (Sunday 1-3) Fullbrook Garden Club Floral Building, Balboa Park. Open to the public.

June 27-28 (Saturday 1-9, Sunday 10-6) "Spice of the '60's in Flowers" Laguna Flower Festival, Veteran's Memorial Building, South H. and Locust Avenue, Longue. Open to the Public. Admission \$1.00.

July 3-5 (9-5 daily) "Fiesta de Flores a Sorobonito" Cortay and Sociolent Society of America, Inc. Los Angeles State and County Arboretum, 501 No. Baldwin Avenue, Arcadia. Open to the public. Free.

July 26 (1-3) Corvax Garden Club Dahlia Show. Floral Building, Balboa Park. Open to the public. Free.

to tour

June 3-6 Quail Park and North County Nurseries.

For reservation and information call Floral Office (232) 3262 or Mrs. (area) 398-3080 or Mrs. Barker (281) 5627.

to learn Flower arrangement classes every Monday morning 10-12.

1st Three Mondays: Seniors Lady, Teacher Soggett School of Japanese Flower Arrangement. Ikebana, certificate awarded.

to watch for

FLORAL ASSOCIATION BIRTHDAY PARTY August 25, 1970 Rossmore Begonia Gardens - 7:30 pm. Details later.

Floral Association and Associates Flower Show September 26-27, 1970.

TODAY'S BIGGEST BARGAIN IS CALIFORNIA GARDEN

For the same price this magazine has four more pages and uses smaller type than it did ten years ago. Today our subscriptions are 40¢. In 1960 it was a quarterly magazine at \$2.00 per year.



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CALIFORNIA GARDEN

Southern California's Own Garden Magazine

June - July 1970

Vol. 16

No. 3

THE COVER

The bamboo on the cover was painted by Sadako Oehler with the medium and in the technique used for silk Kimonos in Japan.

CONTENTS

Dedication	4
Favorite Pelargoniums by Alice M. Clark	5
The Biggest Flower Show in the West	7
Bamboo by Ron Fadem	8
So You Have a Box of Cactus by Jim Stalsonburg	10
Water Lilies go Democratic by Bill Gunther	11
Water Garden Edge Planting	12
A Garden Club's Anti-Litter Activity by Phoebe Gunther	13
Cukes on Parade by Rosalrie Garcia	14
Succulent Cuttings by Allan Mussler	16
A Plant Walk with Chauncy Jerabek	17
Sweet Equivocal Basil by Josephine Gray	25
California Buckwheat by Laurie De Groot	25
Language of Rocks (II) by Barbara Jones	26
Simplicity in Flower Arrangements by Dorothy Marx	27
Epiphyllums by Richard A. Hartford	28
Book Review	30

Calendar of Care

Fertilizers by George James	19
Orchids by Duane "Bud" Close	20
Iris by Sanford Roberts	21
Cactus <i>Mammillaria zuecoides</i> by Larry Phelps, Ph.D.	22
Succulents <i>Aloe variegata</i> by Jim Stalsonburg	22
Fuchsias by James Watson	23
Roses by Richard D. Streeper	24

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Side entrance to the garden.



Back end of the garden.



A bed of pelargoniums, "Pony Dred" and "Apple".

PHOTO BY BETTY MACKINTOSH



STATE FAIRS, PELARGONIUMS, BEGONIAS, ALICE M. CLARK — one idea runs into another. All of these things and a million more concerned with flowers and gardens and art and our magazine bring to mind the enchanting lady to whom we dedicate this issue, Alice M. Clark.

To visit her in her lovely home where a small piece of Southern California abounds with unique and beautiful plant life and her natural wooden house folds around a shaded patio is a delight! Inside becomes outside through large windows and artistically placed plants. To my delight, I found she had botanic names discreetly placed among her plants. She said it was because she was becoming forgetful, but we all know her great dedication to helping everyone learn more about plants.

She came to San Diego in 1911 when her father built the Southern Hotel. In the 1916 Exposition she and a friend had an art studio on El Prado in Balboa Park. She has always loved flowers but did not become actively interested and involved in the Floral Association and things "plant" until the 1936 Exposition when she was painting the Floral Association flower exhibit.

She recalled that when Mr. Robinson, the founder of the Floral Association and this magazine, offered her a prize begonia, she refused, telling him "she didn't know how to grow them." Her extensive collection of exquisite paintings of begonias often reproduced in the *Begonian Magazine* show that she learned. When asked why she painted the collection, she said, "I didn't have time to paint while my children were growing. When they were grown and I had time to paint again, I decided I might as well do something of value."

Something of value—Alice Clark. For years she designed the prize winning displays of the Floral Association for the County Fair, always educational as well as beautiful. For many years she edited this magazine and kept it going during the hard years with great personal dedication.

More words cannot express our feelings of profound admiration nor our sincere appreciation for your years of inspiration (and hope for many more). Thank you, Alice M. Clark!

B.J.

Alice Clark's Favorite Pelargoniums

INSTEAD OF CALLING THEM Show, Lady Washington or Regal, which reminds me of a lily, let's just use the name Pelargonium, which has a sonorous high style sound suited to their beauty. To be correct, the variety is *P. domesticum*.

I became interested in this member of the geranium family about 25 years ago when I discovered Mr. Horner. His dark *Fifth Avenue* is still a popular hybrid. In Loma Portal I specialized in shade plants but found sunny locations perfect for pelargoniums. Even then blooms were large and in good colors such as the fine bright-red *Queen of Hearts*. *San Diego* was a striking oldie of rich orchid with large dark spots on each petal. I am still a push-over for *Irene Ritchie*, a rambler that will spread on the ground. Its heavily fluted upper petals are orange-red with splashes of brown, while the lowers are a distinct rose-pink. The "apple of my eye" was *Ballerina*, rangy, with long-stemmed umbels, perfect for cutting. Luscious shell pink flowers, beautifully frilled, had red accents above. *Springtime's* deep-rose blooms with white centers and borders grew fast and tall. White *Mary Bird* was hard to beat, but *Grace Armstrong* had fluffier flowers. *Gay Nineties* played her part in full skirts of ruffled white plus claret markings on the bodice. Beloved by all was *Grandma Fisher* with brownish-black blotches on each rich salmon petal.

Darkest among my pets was *Butterfly*. Its small fluted clusters of winey-black blooms on willowy stems dates from 1935. The light markings on the petals are like those on a butterfly's wing, hence the name of this low grower. The gay wine-red blooms of *Compensation* were always a highlight wherever grown. *Grand Slam* was and is outstanding in the pelargonium world. Bright flashes of color come from this beautiful plant with long-stemmed umbels of brilliant fiery-red flowers, each with seven or more fluffy petals, some brown pencillings and a lavender heart. These and others are as popular today as in 1945.

When I moved to LaJolla I was delighted to bring my pets along for now they would bloom from early March through July, a month earlier than in San Diego. Of course, they soon took over, obstructing instead of enhancing the landscape. What else can you do

with fifty varieties and new ones teasing you? Aren't plant enthusiasts always a little bit barmy? Pelargoniums are happiest in the ground. I lacked the space and the physical ability to plant them there, but I could sit and pot, and pot and pot until there were over two hundred prodigies demanding attention. Their mobility allowed me to arrange color schemes as if they were paints on a palette.

A little before and since 1960 many new hybrids were introduced, each with a special appeal. Visitors like *South American Bronze*. It has large clusters of medium-size ruffled petals splashed with dark wine red, all outlined in white. *Royal* is a good compact dark red. *Señor* has black imprints that almost hide the cerise petals. A newer pelargonium form is *Souvenir* with large clusters of many smaller tightly ruffled brilliant red flowers. Among the lavenders, *Courage* justifies its name with vigorous trusses of orchid flowers. *Amoro* has pale lilac blooms on a compact plant.

I do not know when *Dawn* appeared on the horizon but it is enveloped with clouds of pale shrimp-pink blooms that almost cover the plant. Even the leaves are handsome—Dawn is a must. A twin of deeper color is *Raptune*. *Margatta*, one of the newer introductions, rates very high because it blooms early and the flowers on its round apricot-pink clusters open full on good stems and stay beautiful longer than most. Quite different is the recent charmer, *Sunrise*, bordered and throated in white with salmon-pink flushes and streaks all over the petals. You won't believe this, but there are spots of silver where the red feathering meets the splash of salmon on the upper petals. Come and see! Salmon-colored also are *Halo* flowers, with a lavender edge that suggests the name. Bright salmon blotches on the petals of *Chorus Girl* are offset by an unusual lavender center and border.

Clusters of extra large white flowers have strong red spots on the upper petals, so the name *Queen* was a natural for this newer compact pelargonium. A well-rounded low shrub, good for accents, is *Aster*, white with pronounced splashes of strawberry red on each petal. It comes on late. *Caribouke*, a fine English introduction, is rose pink with fluted edges and deep maroon feathers etched on its

top petals. *Strawberry Sundae* does look edible with a white center, true pink petals and big smudges of delicious red on its uppers. *Pink Chiffon* is a very handsome pale pink splashed with crimson accents inside. *Applause* patented in 1963, is a show-stopper; pink with white throat and edges, ruffled, almost crimped. Its large clusters stand up well. A white sport of the above, appropriately named *Silver Applause*, is also patented. Its pristine pleated petals are mindful of ballet skirts. Both of these produce scattered winter bloom. There are many newer introductions than those I have mentioned but circumstances have curtailed my ability to seek them. Perhaps ecology decrees that it is time for me to stop overpopulating my garden. Luckily there are Geranium Nurseries where you can learn about the latest in pelargoniums.

Geranium culture is simple. They will grow fast in any sunny spot near the coast, need partial shade inland. The soil does not need to be rich and they withstand our alkaline water. Staking is a problem, but some varieties are effective in mounds (I water my pots twice a week, more when it is warm). Feed a low nitrogen product when new growth starts. (Too much food means larger plants and less bloom.) Pick off spent flowers and cut back bare stems to where a second crop is forming. Spray regularly to guard against white fly. Later in the season watch for worms, picking off flowers they may have entered.

In late summer, when flowering is over, prune out weak or dead stalks and reduce length of branches somewhat. At that time take cuttings, about three inches long just below a node. These will start in the ground where you want them. For container growing use potting soil right from the bag mixed with perlite for fast drainage. Invert four cuttings about an inch deep in the corners of a four-inch plastic pot. Sand may be used, but with soil the plants start growing when the roots are formed. Well rooted cuttings transfer to a four-inch pot and later to gallons. Bone meal is good to add to the mix. Don't overpot. After two or three years pelargoniums usually get leggy and should be replaced with the young stock you have kept coming. I hope you enjoy growing pelargoniums as much as I do and don't go overboard!



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*Photos by Mackintosh
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The Biggest Flower Show
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View of the garden area in 1960.



Price winning entry garden in 1960.



*Price winning patio garden in 1961
Designed by Alice Clark of SDEA*



Shade garden of 1968

BAMBOO

Ron Fadem

IF YOU SHOULD MENTION "BAMBOO" to the average gardener, he will conjure up visions of rampant growths invading lawns and flower beds, uprooting sidewalks and even building foundations. How accurate a picture is this? Is it possible to control this beast, or is one condemned to relinquish his garden should he be so foolish as to plant one of these monsters?

In my own garden, I grow 45 different varieties of the beast right along with a potpourri of standard garden fare. They are quite tame and docile and I probably spend more time keeping the junipers, Star Jasmine and ivy within limits than I do my bamboo. Granted, bamboo is not as well-behaved as most flowers or shrubs, but, with a little care and planning, one can enjoy its beauty without a battle for survival.

Bamboo as a basic landscaping plant offers many things. They are unexcelled as vertical accent and silhouetted against a wall, produce lacy patterns that will turn a blank expanse of wall into a picture of beauty and excellent background for other plants; and, of course, it would be unthinkable to have a Japanese garden without bamboo. They also make excellent pot subjects placed around the patio.

Bamboo does not fair well indoors unless it receives a minimum of eight to ten hours of daylight, preferably with full exposure to the morning sun.

Functionally, they can produce a visual and sound barrier not obtainable in any other plant. Street noise entering a clump of bamboo may go in with a roar but you won't even get a whimper coming out. The multitude of culms (canes) and heavy foliage absorb sound as a sponge absorbs water. Sound just bounces around inside and dissipates. As a visual barrier, someone five feet away cannot be seen, as our men in Viet Nam can attest. It is also one of nature's best air conditioners and can cool an area much as an evaporative cooler does. The large amount of leaf surfaces and its tendency to raise excess water to those leaves re-

leases large amounts of water into the air which evaporates and cools. A good stand of bamboo on a hot, dry Southern California day can lower the temperature around it ten to fifteen degrees. In a more practical vein, they will also provide a supply of garden stakes and for the more venturesome, bamboo shoots add an unusual, crisp texture to the most ordinary salad or stew.

The bamboos can be divided into two basic groups—clumping (*pachymorph*) and running (*leptomorph*). All bamboos grow from rhizomes and although many variations exist, for the average gardener, these two broad, general categories will enable him to select a variety suited to his needs. In general, the clumping types are tropical or sub-tropical and most will not take temperature below 20°. The rhizomes rise directly from each other and their spread is rather slow. The running types are from more temperate climates and most are hardy to about 0°. The "Yellow Groove Bamboo" (*Phyllostachys aureolulata*) has been known to take temperatures as low as -20°. In these, the rhizomes "run" for a distance and give rise to new shoots along their length. They can spread quite rapidly.

All of the bamboo seem to thrive in the coastal areas of Southern California and although the clumping varieties will not attain the size they will in their native habitat (some over 100 feet tall and 10 inches in diameter), mature clumps of *Bambusa Oldhami* (*Sinocalamus Oldhami*), the most commonly seen "giant bamboo" in Southern California gardens, will attain heights of 40 feet and culm diameters of 3 inches. While the "giant" bamboos are perhaps the most spectacular, varieties are available in almost any size from the dwarfs a foot high (*Sasa Pygmaea*) to the 40-foot "giants."

Leaf size ranges from the "Fern Leaf Bamboo" (*Bambusa multiplex* var. *riverorum*) with leaves $\frac{1}{8}$ " wide and $1\frac{1}{2}$ " long to the 4" wide and 18" long leaves of *Sasa tessellata*. Colors range from a yellowish to kelly green with many varieties having leaves variegated with white or yellow. Culm variety is as varied, ranging in color from black to brown and purple and, of course, the commonly seen yellows and greens with many varia-

tions including striping, banding and different colored blotches. Most culms are cylindrical, however, *Chimonobambusa quadrangularis* is square. "Buddha's Belly Bamboo" (*Bambusa ventricosa*) has bulbous internodes and others have elliptical, triangular or flattened culms. There are also many textures such as grooving and "wrinkling."

Bamboos are of easy culture and will thrive with generous feeding (I use ammonium phosphate 16-20-0 three or four times a year) and plenty of water. The soil should have generous amounts of organic matter incorporated into it such as redwood sawdust or peat moss, etc. I do not use manure because of its high salt content. Bamboo leaves are highly subject to salt burn. In tubs, any good potting mix will do or use a mixture of equal parts of soil, sawdust, sand and vermiculite or perlite. Addition of bone meal to the mix will be beneficial although regular feeding with any balanced fertilizer, high in phosphorus, will do.

Bamboos may be planted in partial shade, however, most varieties will do their best in full sun. Shade produces taller, less compact growth. One major exception to this is the black bamboo (*Phyllostachys nigra*) which seems to benefit from shade in the afternoon. It grows well on the east and north sides of my house.

Due to government regulations, which forbid importation of any part of the bamboo plant, it is free of serious diseases and is attacked by only a few garden pests, most of which I have observed locally only on the clumping type bamboos. An occasional snail may nibble at the leaves of an emerging shoot but I have never seen them damage a plant to any extent. The only real pests are bamboo scale which will appear most frequently on the culms of the giant bamboos, the bamboo aphids which cause a sooty mold to develop, and our common longtailed mealy bug. All may be controlled by spraying with malathion at recommended rates.

In general, the bamboos are somewhat of a taxonomist's nightmare due to their rather unique flowering habits. There are a couple which flower continuously or yearly. However, the large majority

Ron Fadem, a Real Estate Executive with a Degree in Marketing, finds relaxation in his half-acre canyon garden. His interest in Bamboos started seven years ago with a gift plant. A knowledgeable hobbyist, he welcomes questions on Bamboos. Call him at 282-8426.

flower on somewhat irregular cycles of between 35 to 60 years. *Bambusa tuliparia* has never been known to flower in over 150 years of observation. Identification therefore, is fairly well limited to vegetative characteristics. Unless there is an outstanding vegetative characteristic, a good magnifying glass and a great deal of patience are needed to identify a given plant. Of course, it must be done with a mature plant at the time of shoot initiation, and you are able to find a correctly named description in the dearth of literature available. The average gardener is, therefore, reduced to reliance upon the label attached to the plant he purchases.

Locally, a fairly good but small selection of bamboos may be observed, all properly labeled, in the zoo just to the north of the main entrance.

I have found small selections of bamboos available in almost all of our San Diego nurseries; and, while there have been some grievous labeling errors, the majority are generally true to type. The majority of the varieties commonly available in our nurseries fall into four genera, *Phyllostachys*, *Sasa*, *Pseudosasa* and *Bambusa*.

The *Phyllostachys* are running types and are readily identifiable in that they usually will have only two branches at each node and a grove the length of each internode above the branches. Varieties usually available are the "Golden Bamboo" (*P. aurea*) which grows to twenty feet and will form a lacy screen of yellow green leaves. It may be identified by the shortened internodes at the base of the culms, the "Black Bamboo" (*P. nigra*), one of the "jewels" of the bamboo world, is graceful and striking with its rich green leaves and black culms which will grow 20 feet in height, and the Giant Timber Bamboo (*P. bambusoides*), which can attain 40 feet in height. Kept thinned out, it will form a large open grove. It requires a great deal of space.

The *Sasas* are also running types with two varieties generally available, the "Dwarf" or "Pygmy Bamboo" (*S. pygmaea*) and the "Variegated Dwarf Bamboo" (*S. P. variegata*). Both are small, not over 12 inches in the can and will have a single branch at each node if the plant is mature. They are useful as an unusual ground cover.

A single variety of the genus *Pseudosasa*, (*P. japonica*) is available and will usually be found under its Japanese name "Metake." It is useful around pools as

it makes a minimal amount of litter. It is a running type although not as aggressive as most others. It may be identified by the long dark green leaves carried in clusters at the ends of the branches which are carried singly at each node.

The *Bambusas* are clumping types. Generally available varieties include the "Giant Bamboo" (*B. oldhamii*), "Bud-dha's Belly Bamboo" (*B. ventricosa*), a good pot subject to six feet (to 30 feet in the open) and two or three cultivars of *B. multiplex*, the most common of which are "Golden Goddess Bamboo" which grows to a maximum height of ten feet and the "fern leaf" or "solid stem bamboo" which will grow to a maximum height of about six feet. The *Bambusas* can be identified by the large number of branches at each node, one of which will be much larger than the others.

Unlike most other plants, bamboo can be purchased pot bound as the size of the root system determines how soon the plant will reach maturity. They can be planted at anytime of the year. Avoid buying plants in flower (the flowers look like wheat) as they will either die after flowering or recover slowly after the flowering cycle which may be up to ten years. During flowering the vegetative growth all but ceases and only flowering culms with few leaves will be produced.

Unfortunately, at least to me, the question I am most often asked is "How do I get rid of it?" Due to the bamboo's growth characteristics it is really quite simple. It is this same simplicity which makes it easy to contain or control. Bamboos initiate new shoots once a year, the clumping types in mid or late summer and the running in the early spring. One need only break off the soft new shoots as they arise outside of the prescribed limits. To eradicate it completely, cut off all the culms at ground level and break off the new shoots as they arise. As with all monocotyledons, bamboos do not have a cambium layer, and, therefore, lack the ability to produce an infinite number of shoots. There is a single bud at each node of the rhizome, in the running types, and once they have all sprouted and been removed, the plant is no more.

To reduce the size of a clump of running bamboo, remove all the culms outside the desired area, sever the rhizomes around the clump with a spade, and remove any shoots which may arise outside the clump area.

To avoid all this cutting and hacking simply plant them within a barrier or curb at least eighteen inches deep such as a raised planter, flue tile, or galvanized sheet metal or concrete curb.

Bamboo may be propagated by seed, when available, clump division or rhizomes. There are other methods such as culm layers, branch and culm cuttings, however, they are fairly specialized techniques and not suited to the average gardener. Seed should be as fresh as possible and I have had success sowing them in a mixture of equal parts of sand and peat moss. I have also had good results using straight vermiculite or sphagnum moss. Stratification is not required and equally good results have been obtained with and without bottom heat.

Clump division should be done just prior to shoot initiation and each division should contain at least three culms. With the smaller bamboos, a shovel will serve nicely to separate the clump, however, division of the larger species can be a formidable task. Dividing a clump of giant bamboo, with its ivory hard rhizomes, requires an axe, mallet, pick, shovel and a good deal of sweat. In Puerto Rico, they have experimented with dynamite to loosen large clumps, however, it is a bit extreme and I doubt your neighbors will appreciate the method.

Rhizomes, of the running types, grow fairly close to the surface and can be pulled up by hand. They should be cut into pieces not less than a foot long. With the clumping types, remove the clump completely or leave just the lower two or three nodes. Dig around the rhizome and sever it where it connects to another rhizome. Excellent results can be obtained by rooting either type in red-wood sawdust.

For those who wish more information, a discussion of the bamboos is available in the *Sunset Garden Book* along with brief descriptions of the most commonly available type. For more information, Agriculture Handbook No. 193, *Bamboo in the United States*, is available for 35 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Ed. Note: Mr. Faden was prompted to write this article because of the Lawson Book on Bamboo which we reviewed in our last issue. Mr. Faden says that the information contained in that book does not apply to Southern California—in fact, he warns. Some of the bamboos listed as moderate growers would lift the foundation of your house if planted in this area.

So You Have a Box of Cactus...

Jim Stalsonburg

EVER SEE ONE of those compartmented boxes of dried-out specimens for sale at a gift counter and said to yourself, "Not for me!" Well...

Nearly all succulent and cactus plants are shipped dry; consequently they should be treated to insure the formation of new roots as soon as possible. Upon receiving a box of plant material, unpack, trim roots back, and place the plants in a solution of lukewarm water and a root stimulating hormone (or Vitamin B₁) for one-half hour. Clean sand is the material commonly used by florists for rooting. While sand is very good, we have found that succulents and cactus will root much quicker and with less danger of rotting, if a sandy loam or a synthetic leaf mold is used for potting instead of straight sand.

Most everyone is familiar with ordinary leaf mold, that wonderful crumbly crust of decayed and partly decayed material that one scrapes up in the woods, with a little of that beneficial earth matter. However, in our Southern California woods there is a prevalent intensity of oak root fungus, which is why we recommend a synthetic. Too much sand or soil has a tendency to pack firmly, whereas the loamy leaf mold type medium remains loose and allows free penetration of the tender young roots. A good synthetic leaf mold mix consists of 50-75% peat moss, redwood compost or any good organic, and the remainder vermiculite (a softer substitute for sand). After placing the plant or cutting into the soil mix,

gently firm the soil around the stem just enough to hold it erect. Water lightly, if you are impatient, but better results will be achieved when freshly cut tissues are allowed to *callus* for from 24 hours to a week.

Warmth is essential to rooting, good light and ventilation are important, also. Then, too, the season of the year has an influence. Plants or cuttings obtained in the fall or winter may not root until spring, but you may have to take 'em when you can get 'em. We have had cuttings remain dormant for six or eight months before finally taking root.

A great deal has been said about stratifying the soil mix with various brace-brac in the pot, such as gravel base, sand layers, charcoal, etc. We are of the mind to prefer a uniform mix from top to bottom, thus insuring the ultimate in water dispersment and a homogenous area for root development. Many good things can be said about adjusting the basic mix to incorporate some ingredients normally found in a particular plant's habitat. Regardless, the mix should be of a texture that receives water readily and holds it in suspension for the eager roots of a neophyte desert dweller.

A common difficulty experienced with succulents and cactus is rotting at the base of a cutting or rotting of the roots when the plant is repotted. Fortunately, it is not true with all succulents and cactus, but it is one good reason to consider potting the plant originally into its permanent home. Repotting should be

greatly simplified and environmental stress should be at a minimum, if a uniform soil is used. A damp, close atmosphere is conducive to rot, and as a general rule, a cutting bed should be kept damp. All the more reason to use a loose loamy soil, which allows the gravitational water to pass through, leaving the desired capillary moisture to remain. Watering all boils down to a matter of experience and judgment. We have been asked many times how often to water. No definite rule can be given; in fact, nurserymen have no rules. They rely on their own judgment related to past experience and the experience of others as to when to water.

Look at the root development from time to time. (Author says one can just unpot the specimen, take a peek and report.) Ask question, if someone is succeeding and you are not, reason out what he is doing differently. If you discover the stem rotting, cut back to clean sound tissue and proceed again.

Each day new plants are being introduced to new and different conditions and it is impossible to give specific directions for each case. However, fact will never contradict faith when we place fact and faith in the correct relationship to each other. The more we exercise the forces of nature, the more is available to our use; there is no law of nature that has been exhausted by man, nor will man ever find limitations to those laws, except in the limitations of his own consciousness. Keep an open mind...

Jim Stalsonburg is Park Foreman of Balboa Park. He has been an avid collector and grower of cactus for 10 years. He is presently a student in the Ornamental Horticulture program at Mesa College.

This article is reprinted in part from ESPINAS Y FLORES the publication of the San Diego Cactus and Succulent Society.



VINEGAR used in the garden is not new but "tried and true." Alice Rainford writes that upon hearing of a La Jolla resident who used it on roses in an alkaline soil, she tried it. By monthly applications of a spray of half vinegar—half water on her roses she found that not only were the aphids and mildew effectively controlled but that the plants were benefited by that which fell on the soil.

In records of early horticultural practices references are often made to the watering of seed beds with a dilute vinegar water solution to encourage better growth. Cuttings were watered with a vinegar solution, also. No dilution amounts given for the seed or cutting beds, but acid-loving plants can be benefited by monthly ground watering with a solution of 1/2 cup vinegar to 1 gallon of water.

Water Lillies go Democratic

Bill Gunther



Mossy lilies beside a standard pad

IF YOU ARE AN AVERAGE HOME gardener, the mention of water lilies may bring to mind a vision of an expensive lawn and formal marble-lined reflecting pools dotted with water lilies. However, to associate water lilies with ostentation is both visionary and unrealistic. Water lilies are not expensive status symbols and are no more beyond the reach of a city-lot gardener than are petunias and geraniums. What makes this true is the fact that miniature water lilies are now available.

Miniature water lilies are just as beautiful as regular water lilies but they have been brought down to democratic size. They now can be grown in any garden in a pool or in a very humble tub garden. Wooden tubs, ordinary galvanized tubs, old washing machines, and old bathtubs are but a few of the possibilities for making a lovely tub garden. The tubs may be sunk into the ground or may be simply placed on the surface of the ground, as desired. In either case, the addition of water and the addition of the water lilies transforms the tub from

an ugly piece of junk to a center of beauty.

Try it in your own yard and see for yourself.

There are miniature water lilies with white, pink, blue, red, yellow and purple blossoms. Take your pick. Mix them or match them; they are all beautiful. It is impossible to group water lilies in such a way that the blossoms of different plants do not harmonize. The water is the moderating and harmonizing influence; it is calm and clear and mild; it makes the difference.

In a natural environment, every lake, pond, and stream which has water lilies also has fish, water snails, and frogs. They live together in an association which is called *symbiosis*. (Look that word up in your dictionary; it is a very good word to know.) You should have symbiosis in your water garden, too. You can have it if you put a few goldfish and a few water snails, along with your miniature water lilies, into your garden. The goldfish will eat mosquito eggs, and thus will prevent your lily pond from becoming a mosquito breeding pond. The snails will eat dead lily pads, dead lily blossoms, and other dead organic matter,

thus, they will prevent your pond from becoming rancid. Without any effort from you, your pond will attract the frogs, and they will sit on the water lily pads on summer evenings and sing for you. The goldfish, snails, and frogs are of fascinating interest to young children; petunias and geraniums are not. Therefore, if you are a parent—or a grandparent—a water garden can serve where a dirt garden fails.

If you have a friend who already has a miniature water garden, you probably can get the components for your own miniature water garden from that friend for free. The enthusiasm for miniature water gardening is contagious; if you experience it, you just naturally want to share it—because sharing it in itself is a pleasure.

However, if you are not acquainted with anyone who already enjoys the subtle pleasures of water gardening and your local nursery doesn't have a water section, then a selection can be ordered by mail.

Van Ness Water Gardens, 2460 North Euclid Avenue, Upland, California 91786, lists twenty different varieties of miniature water lilies in their catalogue plus detailed information on how to start a tub garden. Request is free; it is free.

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INTRIGUED WITH A WATER GARDEN. It is an exciting facet (and cooling) of gardening.

Once a water garden is established, the surrounding area must be considered. Where to go for reliable information? Where else but Sea World where water is "everywhere" with attractive plantings between. Most of the following information was gleaned from a conversation with Jim Imlay, Superintendent of Grounds for Sea World. (Jim Imlay is an Ornamental Horticulture graduate from Cal-Poly at Pomona and is an instructor of Ornamental Horticulture at Mesa Evening College, too.)

One of the better ground covers is Korean Grass (*Zoysia tenuifolia*), a bumpy-grass like material. At Sea World the ground level is about 5" above the water level, and this material will grow down over the cement edge of the ponds—will grow up into bushes, too. (Most of the ponds are salt water.) It is kept green and healthy by watering for 1 1/2 hour with a light sprinkle two times a week. Although fairly wear resistant, it is slow to recover if damaged. It will be helped by a spring feeding of a high nitrogen fertilizer. It should not be mowed, but the cover should be peeled off in the spring every 4 or 5 years. It is salt and chlorine tolerant, will stand moderate shade, but is very tender to frost. It will some times lose a bit of its color in winter. It is relatively free from insects and disease.

Jim Imlay says that the best way to plant is by plugs. Turn a flat of Korean grass out, with a dull saw cut into 11 1/2" strips and then across to form 11 1/2" squares. (Do this from the bottom to minimize plant damage.) Prepare the soil in the normal manner using an organic fertilizer before planting the "plugs." If planted at 9" intervals it will take approximately 18 months to cover the closer the planting, the sooner the cover. A top dressing of sifted sphagnum moss will aid in moisture retention. It must be kept moist for about two months until it is established. (If it gets a burned look in 5-6 days, don't worry, it will recover.) Plugs can be planted from spring till early fall. If planted in the winter it will just "stay" until warm weather, as it is classified as a warm weather ground cover.

Another successful waterside low cover which gives a "woody" look is Strawberry (*Fragaria chiloensis*). A weekly

watering (more in hot, dry weather) will keep it healthy and green. It will not stand traffic, but will tolerate partial shade. (Do not use in extremely hot areas.)

For a deeper cover use Asparagus Fern (*Asparagus sprengerii*). Water weekly, but it is drought resistant. It can tolerate shade or hot sun and can withstand wind. It is particularly attractive on slopes and is very good for inaccessible areas as it requires infrequent maintenance.

Incidentally, many of the small islands are covered with one of the new chemical grasses (plastic). The birds don't seem to mind at all.

The shrubs and trees in the landscaping should be placed before planting the ground cover. Rocks interspersed in the planting and on the pool edges will give a more natural look.

Natal Plum (*Carya grandiflora*) shrubs do well in heat or fog, sun or shade, and can withstand trimming. The spines on the stems discourage pet damage, too. If good drainage is present the Japanese Pittosporum (*Pittosporum tobira*) is attractive.



Fortnight Lily (*Mosses*), which resemble iris, do well in sun or partial shade and in poor dry soil. Pest resistant, too. They will withstand abuse and water splash.



Egyptian Paper Reed (*Cyperus papyrus*)

will do very well in an extremely wet, heavy soil, tolerate chlorine and need little care. They make an attractive tall "behind-a-pool" planting and are ideal for inaccessible places.



The Japanese Black Pine trees (*Pinus thunbergii*) are pool tolerant and can be kept controlled by removing the candles, new growth, each spring. The coral trees (*Erythrina caffra*), a small deciduous tree, can tolerate the pool edge if in full sun with good drainage. Acacias seem to do well in this type of environment.



and the Weeping myal (*Acacia pendula*) makes a graceful over-the-water planting. Fast growing Rusty Leaf Fig (*Ficus virens* v. Florida) are attractive as are Guano (*Myoporum laetum*). Both can be kept trimmed to small trees and will tolerate salt.



A grove of light bark Melaleucas (*Melaleuca leucadendron*) can give the effect of White Birch. These need much water and do well near water falls, etc.

In answer to the question, "How soon can one plant near fresh cement?" Jim Inlay's surprising answer was "about 4 hours." How? By heavy leaching of the soil with fresh water, the effect of the new cement on plant material will be minimized. Incidentally, he recommends leaching (long, continued application of fresh water) for soils with salt, too. BJ



A Garden Club's Anti-Litter Activity

Phoebe Gruber

THE LA JOLLA Garden Club sponsored an essay contest for students of the La Jolla Mirlands Junior High School in the fall of 1969 with the excellent co-operation of Principal Harold Balsiger and the teachers in the English Department.

The subject assigned was: "How to Assist the Anti-litter Program in La Jolla." Students presented original ideas under subtitles of their own choice. Most essays were in prose, but there were some poets; some projected Orwellian phantasies! The teachers forwarded our committee over a hundred papers which they had selected and our judges decided on the five winners:

- 1st Cindy Male
- 2nd Debbie Waitly
- 3rd Judith Menton
- Honorable Mention John Nielsen,
Maya Dunne.

As so many of the papers were excellent, the judges found it necessary to eliminate those who did not completely follow the rules. Even then, it was a very difficult task to select the winners.

Some of the interesting suggestions made by the students were:

1. Organize neighborhood clean-up campaigns.
2. Organize youth group bicycle clean-up patrols by Girl Scouts, Boy Scouts, etc.
3. Stimulate a community-wide program to maintain our city's appearance, possibly named Operation Sparkle.
4. Stimulate La Jollans to serve as an example to others to "return the gleam of our city to its full lustre."

The young people who gave this subject thought will, it is hoped, in the months and years to come recall their

efforts and perhaps will choose to become actively involved in community, corporate or legislative efforts to beautify the environment.

The Garden Club believes that interesting students by means of such a contest serves community and country.

"Litter is because everyone else does it."

"Litter is because I don't see anywhere else to put it."

"The careless practice of littering has become a habit for many people."

"Litter is contagious."

"The scenic byways . . . are marred to the greatest extent by those same people who come to admire them."

"But it is the people who must stop this littering. Pick up a can, because if you don't, who can?"

"Brushes are meant to be used and clean."

"And not to be a place with trash or things thrown."

"Why should people live the life of a pig?"

"Litter is the visible example of a lack of pride expressed by an individual, a community and a country."

*"Now is the time!
Don't wait 'til tomorrow,
Or your eyes and your nose
Will be filled up with garbage."*

Mrs. J. L. Gruber is the Civic Chairman of the La Jolla Garden Club and actively worked on this project.

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PHOTO BY BETTE COOPER

Cukes on Parade

Rosalie Garcia

TWO KINDS OF PEOPLE exist: those who adore cucumber, and those who can't stand them. To some they are like "rocks" in their stomach which make them belch; others eat them like apples. On the streets of Tijuana, Mexico, vendors will whittle off the rind, quarter one, sprinkle it with salt, douse it with lime juice and present a fresh cucumber in a paper napkin—all for a dime. This produces a most satisfactory, low-calorie snack to be munched on while strolling along the shop-filled streets.

Being a warm weather vegetable, cucumbers have been found all over the world in warm climates and are recorded in history as far back as 3,000 years. The Chinese, Greeks, Romans and Biblical peoples cultivated them and rated them highly. The American Colonists found them growing wild in this country. Cucumbers, like cabbage, were salted down in brine for the winter months. Vinegars and herbs also preserved them. Many will have fond memories of stopping by the corner grocery, fishing out a long yellow-green pickle from a barrel for two cents and sucking on its briny, dilly deliciousness on the way home from school.

Since cucumbers are about 96% water, there is little food value in them, except minerals and vitamins. As they are eaten as appetizers and "fillers," it is remarkable that they have such a prominent place in agriculture and commerce. The United States Department of Agriculture ranks them ninth in acreage and twelfth in value among the twenty-two principal vegetable crops.

At any season one can find the slender,

dark green, smooth cucumbers, waxed for preservation, in our markets. New hybrids of these commercial varieties have fewer seeds, crisper flesh and smoother rinds. In order to achieve the ultimate in what a "cuke" can be, choose some of the non-commercial varieties and plant them in the home garden. The wild ones nearly always were knotty and spiny, and cucumbers that retain rough skins are still the sweetest, most tender and crisp. It does not matter whether they are designed pickling or slicing, all are good when eaten fresh, crisp as an icicle and almost as cool (being the inspiration of the common simile of "cool as a cucumber").

In the pickling trade many are processed whole and many are sliced as is one of our favorites, the "bread and butter" pickle. Piccalilli, the staple of the hamburger stand, is cucumbers ground up with green tomatoes, onions and flavored with vinegar and spices.

The "teen age" stage is the best for slicing for salads, for they are not quite mature but are full of juice and flavor. Fresh sliced cucumbers are improved by standing in iced water for twenty minutes, then tossed with salad greens or dressed with sour cream and dill. Some like them wilted in salt for an hour, drained and dressed with vinegar, sugar and seasoning and served with baked or broiled fish. They are thought to be more digestible this way. A salad of cubed cucumbers, shredded cabbage, cubed pineapple and marshmallows bound with salad dressing makes a fine accompaniment for chicken or a cold plate. Both fresh and pickled cucumbers add texture and piquancy to food.

Mature cucumbers, cooked in various ways are most rewarding and not in common use. They respond to stuffing, baking, steaming, broiling, scalloping with cheese, and being flavored with sauces and batters. With meat or cheese they make an unusual entree or hot dish. Flavor is enhanced by cooking. Mature fruit has more flavor and less crispness.

Although "cukes" are available to us at all seasons, this is a recent development. When they were introduced into England in the late 16th Century, they

were an oddity. In that cool damp climate they were very difficult to grow and soon landed in the few hot houses of that day and remained there until the 19th Century. George Stephenson, an inventor of locomotives, was distressed by the way the little delicacies curled. He wanted them to be straight and slim. He developed glass cylinders to fit over the inch long fruits and forced them to grow straight. This was too expensive for most and the practice sort of vanished, but the glass cylinders are today collector's items.

I have found that gently massaging a young cucumber (inclined to curl) when it is about thumb length will straighten it out and set it on a straight path. This should be done after midday when the youngster is warm and pliable, or it will pop into two pieces.

We can enjoy hothouse cucumbers in our own area produced in Chula Vista. They are pale green, slender, up to a foot long, and very tender and crisp. They are labeled "Holland." The grower imported the seeds from Holland and grows them in his hothouses under controlled conditions. They are trained up poles and along wires stretched between the poles, carefully plucked at the peak of condition, wiped with a chemically treated cloth and wrapped in cellophane. They do not need to be peeled and will keep in the crisper for two weeks, even after a portion has been sliced away.

In the home garden, the "cukes" can be grown from June to October in the coastal areas and longer and earlier in the valleys. They are of the genus *Cucumis sativus* and are of the gourd family and grow on a vine. They are not the easiest vegetable to grow for they are a "sitting duck" for almost any disease or bug that comes along. Mildew and wilt are the commonest diseases. I find that training the vines on poles or a trellis helps to control these diseases and makes it easier to get at the bugs. This allows better air circulation and the dew dries off more quickly and one can see the developing fruits. To keep the vines producing, keep fruit from going to seed. Spraying the vines with a fine jet of water nearly every day prevents insects, fungi and mildew.

Rosalie Garcia has been growing vegetables all her life. She enjoys growing and eating new vegetables. She has an extensive flower garden too.

For cucumbers the soil should be loose down to at least six inches and rich in organic matter. When planting, fill the inch deep holes with liquid fish, drop in three seeds, and cover firmly. Since I train my vines on a trellis, I put them only about a foot apart; but if you plant in rows they should be four or five feet apart. Since "cukes" like a fairly acid soil, I apply some azalea food when the vines have started up the wires and keep them well watered. On hot days the vines will wilt, and a shower at sundown will revive them. Give them their deep watering in the morning so they will dry off and not give mildew a chance to develop.

Most cucumbers are ready to harvest in about two months. They can be planted as early as March, but should be protected by plastic placed over frames until they are ready to trail or climb.

Seed catalogs and seed racks in the nurseries have a great variety. If there is room, try several kinds: Early White Spine, Table Treat and Crispy or Marker and National Pickling. One of my favorites, the round yellow Lemon, is crisp and sweet just like an apple. A long dark green one, slightly knotty, labeled "Oriental" is tops for crispness with almost no seeds. It can be a foot long and retain all its fine qualities. The gherkin, the tiny knotty one used almost exclusively for pickling, is a real tropical and originated in the Caribbean Islands. It is a gourmet morsel hard for us to grow along the Coast.

Probably the "King Cuke" is the Armenian, a pale green giant, that attains a length of three feet and is three to six inches in diameter. Often displayed as a sort of oddity, it was a prominent exhibit at the Floral Building in Balboa Park last fall at the Convar Garden Club Show. The growers, Mr. and Mrs. Herold Schnaubelt of La Mesa, say the rind is tender enough to eat, and in its prime, it is crisp and delicately flavored. It is prolific and long bearing if fruits are kept picked off. The vine radiates in a circle of from four to five feet.

Deep satisfaction, equal to winning a blue ribbon, is in store for the grower of "cukes." In the cool of the day seek out a pendant fruit snuggled under the shade of leaves, pick it, take it to a seat in the shade with a knife and salt shaker, and calmly chomp on this delectable snack. It comes only to him who grows his own!

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To avoid a "wind scorch" rise lip at base of soil level.



Pony plant has proper root development for transplanting.

If you have a difficult bank to plant with a ground hold, or a large remote area which needs a ground cover, consider propagating your own plants from cuttings. It is relatively easy and if you use peat pots you'll have a high degree of plant survival.

1. Gather cuttings of "ice plant." * Take long green runners of fresh growth. Do not use dry, woody-looking material (hardened off).
2. Cut pieces three to five inches long from the tips as shown in the upper left picture.
3. Strip the lower two sets of leaflets from each piece.
4. Prepare 2 1/4" peat pots by placing them in a 3" deep flat and filling the pots to within 1/2" of the top with a good garden mix. Be sure to fill any extra spaces around the pots. (Good mix: 1/2 leaf mold, 1/4 soil, 1/4 sand.)
5. Make a single dibble (hole) with pencil or dowel in each pot. The two stripped nodes of the cutting must be below the soil surface. (Node is the part of a stem to which a leaf is attached.) (See upper right picture.) Firm soil around cutting.
6. Water well and place the flat in the shade until roots begin to form. (See picture at lower left.) This takes from 2 to 4 weeks.
7. Gradually move the plants into the full sun. Let them remain in the flat in the sun until they are able to withstand it (2-7 days).
8. When ready to transplant into the open ground, dig a 2" diameter hole. (A geology hammer with a sharp dagger point is "great" for hard banks.) Make a small "shelf" on a hillside for each plant.
9. Tear the lip from the peat pot after removing it from the flat. (See middle picture.) Place the plant in the pot in the hole, fill in spaces around the pot with soil and water in. Small varieties should be placed 6-9" apart; larger species should be 12-18" apart. (The large species should not be used on steep banks.)

Succulents are desirable because of the low maintenance required. They are drought resistant and normally require watering once every two weeks with a very fine spray. On large inaccessible areas, a rotating sprinkler elevated 2 feet is satisfactory. Unless it is raining or a dry wind is blowing, water once a month during the winter. They will survive on a minimum of fertilizer, but for lush planting apply a sprinkling of a balanced granular type fertilizer once a month during the summer.

Consultant: Ernest Chew, Supervisor of Nursery and Landscaping, City of San Diego.

*Regional ground-cover succulents are commonly called "ice plant." These shown are *Mesembryanthemum*. (These have been seen in full bloom on banks all over the city recently.) Method given above will apply to other types.



PICTURE TAKEN FROM RUGAL ASSOCIATION FILE

Sugar Gum Eucalyptus line a walkway which was west of the Fine Arts Gallery. No longer there. A few of the remaining trees can be seen on this plant walk

(C)

D

A Plant Walk

with Chauncy Jerabek

El Prado

Balboa Park

*California Garden Presents a
self-guided plant walk for
your pleasure.*

(This page can be folded and removed for convenience.)

A

A PLANT WALK ALONG EL PRADO – BALBOA PARK

with Chauncy Jerabek
former Supervisor of Planting and the Nursery
of Balboa Park

This tour starts on the NE corner of El Prado (Laurel Street) and Park Boulevard

—Tree at the corner of the Museum is an Italian Cypress (*Cupressus sempervirens* v. *indica*). The higher shrubs which border the building are Hibiscus (*Hibiscus rosa-sinensis*) with a lower border of Lantana (*Lantana camara*) in front. The tree standing palm is the Australian Cabbage Palm (*Livistona australis*). A large Southern Magnolia tree (*Magnolia grandiflora*) stands at the street jog.

—At the E side of the stairs are a clump of three Queen Palms (*Chlorophytum plumosum*) and one tall Mediterranean Palm (*Chamaerops humilis*) with a mass of *Alyx arborea* with heavily notched leaves.

—A Boxwood hedge (*Buxus microphylla japonica*) borders the cement area. The palm is *Erythea elegans*. The street tree is Blackwood *Alacia* (*Alacia melanocoryna*).

—On the W side of the steps more aloë and palm (like E side) and in the back is a palm-like Giant Dracena (*Cordyline australis*).

—The large tree in the corner is a Victorian Box (*Pittosporum undulatum*).

—At the W corner of the building the large tree is one of the *Ficus* family.

Cross the street to the new building.

—The small palm is a Curly Palm (*Howea forsteriana*) with a boat shaped leaf, the larger palm is Thatchleaf palm (*Howea forsteriana*). The large tree is a Camphor tree (*Camptocarpus camphora*).

—The clumps of palms which go to the W are Senegal Date Palms (*Phoenix reclinata*).

Proceed to the Timken Art Gallery wing.

—At the corner of the building are three Mexican Fan Palms (*Washingtonia robusta*) with three dark leaf Flax (*Phormium album dracunculifolium*) and Bird of Paradise (*Strelitzia reginae*) with a front border of prostrate Natal Plum (*Carrisa grandiflora prostrata*). The bed is centered with a Glossy Abelia shrub (*Abelia grandiflora*). The W end of the bed is a repeat planting of the E end. On the ground is Ripple Ivy (*Hedera helix ripple*).

—At the corner of the Plaza near the fire hydrant is an Australian Tea tree (*Leptospermum laetigatum*).

—In the planter boxes which border the Plaza are Evergreen Pears (*Pyrus kawakana*) with low prostrate Juniper (*Juniperus roebertii*).

Cross the street to the W wing of the Art Gallery.

—Tall Twisted Junipers (*Juniperus chinensis torulosa*) are interspersed with a blue-green medium height Pfitzer Juniper (*Juniperus chinensis pfitzeriana*).

—At the end of the gallery are 3 large Twisted Junipers with Tam Junipers (*Juniperus sabina tamariifolia*).

—The trees which border the walk to the Globe Theater are Sugar Gum Eucalyptus (*Eucalyptus corniculata*).

—In the bed in front of the arch of the Museum of Man are large Canary-Island Palms (*Phoenix canariensis*) with ivy and Asparagus Fern (*Asparagus sprengeri*) climbing the trunk. Several Dragon-trees (*Dracena draco*) and Queen Palms and a *Erythea* Palm have a low planting filler of annual flowers.

—In the bed to the right of the Museum of Man door are blue Lily of the Nile (*Agapanthus africanus*). The shrubs are California Holly (*Heteromela arbutifolia*). There is a clump of Giant Dracena (*Cordyline australis*).

B

Cross the street to the south side of Laurel (El Prado)

—In the wooden boxes are Mediterranean Harpalm (*Chamaerops humilis*).

Go to the E side of the arch.

The six palms with green trunks are Thatchleaf-palm (*Howea forsteriana*). A Guadalupe Palm (*Erythea edulis*) is to the left and one Dracena. The bed is full of the dark green broad leaved Aspidistra (*Aspidistra elatior*). These sometimes flower near the ground with a deep maroon flower.

—To the left is a Heavenly Bamboo (*Nandina domestica*) with a Cup of Gold Vine (*Solantra guttata*) (Camellia and Fuchsia bushes have a front planting of Bearsbreach (*Acanthus mollis*)).

—The doorway is flanked by Dracena.

—The well tended beds continue along the covered walk with formally trimmed Eugenia (*Eugenia myrtifolia*), varieties of Fuchsia and Camellia.

Beside the door of the Hall of Champions is a large Sugar-gum Eucalyptus and a large Magnolia. The shrub is a Mock Orange (*Pittosporum tobira*).

The bed at the corner contains Camellia, Dracena, Canary-Island Palms and two Twisted Junipers. The greyish shrub is Yeddo Hawthorn (*Raphanopus erata*).

—Looking left down the building are two Italian Cypress and a purple bougainvillea (*Bougainvillea var.*).

Cross the street to the House of Hospitality.

—The arch is flanked by Cypress and 2 trimmed Viburnum (*Viburnum cespitosum*) and a Mock Orange.

—The street tree is a Black Acacia.

Under the palms and the Gum Eucalyptus are orange Kafir Lily (*Clivia miniata*).

—The plant beds continue along the covered walk with Camellia, trimmed Eugenia, palms, Clivia, Aspidistra and Fuchsia.

At the W entrance of the Aerospace Museum—R side is a large green flowered tree (*Pittosporum undulatum*) and a large Camphor tree.

—Across the walk is a large Mock Orange shrub and a tree (*Pittosporum undulatum*). The fern under the Clivia is Sunset Fern (*Blackbun occidentale*).

—Across the walk on the E side of the entrance of the Aerospace Museum is a palm with ivy, a small bush Fuchsia and a climbing fern (*Stemblaena palustris*) on its trunk.

—To the left is the Plantain Banana (*Musa sapientum*) a large camellia and the Giant Bird of Paradise (*Strelitzia reginae*). The lower plant with variegated leaves is the Gold Dust Plant (*Arctostaphylos*).

Go to the left.

—The plants in the cement jars on the wall are Powder Puff (*Calliandra magniflora*). The vine on the wall is Creeping Fig (*Ficus repens*). The hedge is Boxwood.

—East of the entrance is Viburnum and Natal Plum with a background of Abelia (*Abelia grandiflora*). To the left the background trees are Victorian Box, Sugar Gum Eucalyptus and a Brisbane Box (*Trochodendron*) and an untrimmed Eugenia and a white trunk tree (*Pittosporum eugenioides*). The white flowered shrub is Bridal Wreath (*Spiraea vanhouttei*) and the corner shrub is a large Cotoneaster.

End of Walk

While you are in the area, visit the Botanical Building behind the lily pond. It is delightful, all of the plants are labeled. Take your camera, too.

C



Calendar of Care

George James

THIS IS A CONTINUATION of last month's discussion of the uses of commercial fertilizers in the garden.

Citrus Fruit Trees

Citrus fruit trees are grown as garden plants and in many cases they grow close enough to lawns or other highly fertilized areas so that their roots can pick up enough food for growth and food production. In such cases, Citrus will not need to be fertilized. They will indicate their need for additional nutriment by producing small leaves, developing a poor shade of green leaf color, and showing little or no new growth in spring and summer. The development of new growth is important because this is where the flowers and fruit are produced. Citrus, either the full size or the dwarf varieties, can be helped by one or two applications of plant food during the spring and summer months. Be careful not to over-feed, because this will result in fruit of poor quality — dry, pithy, without flavor and thick rind.

A special fertilizer for citrus and avocado trees has been developed; the same material meets the special requirements of both. It is called "Citrus and Avocado Food" and will have directions on the package for the correct amounts to be used. (The size of a tree is determined by the diameter of the trunk or by the size of the area covered by the head of a tree.)

Citrus trees will have many roots close to the surface of the soil, or, if constantly cultivated, the roots will be just below the depth cultivated. Commercial fertilizer should be mixed into the soil when applied to trees that have been cultivated regularly. As cultivating can damage surface roots of other trees, holes about one inch in diameter and between eight and twelve inches deep can be made with a soil drill or a bar. These holes should be in a circle about 12 inches from the trunk of a newly planted tree or at the drip line of a mature tree. The recommended amount of commercial fertilizer should be divided and placed in equal amounts in the holes, followed by

a good irrigation. The holes need not be closed, but can be filled with fine humus if wished. (When surface roots of citrus trees are damaged, one can expect a drop of foliage, an increase in the drop of fruit and, possibly, the dying back of recently developed growth.)

On rare occasions the "Citrus and Avocado" food may not supply all of the micro-elements needed. This situation can be corrected by using a citrus growers' mix which contains iron (for the correction of chlorotic leaves), copper (may assist in sweetening oranges and tangerines) and zinc (corrects a condition known as "Little Leaf"). Manganese is found in this mix, too, and it is allied with iron and copper in their functions. These minerals may be chelated, which means that materials may be added which will buffer the four elements and prevent their being "locked-up" in unbalanced soils. (Locked-up means to be in a form unavailable to the plant.) Chelated materials will be more effective if applied by means of holes — same method described.

The Valencia variety of oranges may appear to be ripe, when judged by fruit color, as early as January, but often are very sour at that time. If these are allowed to remain on the tree until March or April they will become sweet. Grapefruit tends to be thicker skinned and less sweet in the coastal area than when grown in a warmer area. The citrus growers' mix will not help the quality of the fruit in this situation.

Avocado Trees

"Citrus and Avocado" fertilizer has been found to be quite helpful for avocado trees, and they have shown the greatest benefit when it has been applied at the time the tree is in flower. There are several varieties of avocados grown in this area which flower at different months in the year, so the fertilizer application should be timed to the flowering of the variety being grown.

Avocados have as many (or more) surface roots as citrus and, for this reason, they usually are not cultivated, but

often grown with a mulch over the rooting area. Avocados are fertilized best by making the holes as described for citrus. Be sure to water after the fertilizer applications.

Ornamental Shrubs and Trees

As a rule, ornamental shrubs and trees need little fertilization. More often than not, fertilization can cause these plants to grow too fast and become too large. This is undesirable because increased care and additional pruning are required. Some trees have brittle wood which can be easily broken by the wind, and when these trees are fertilized, the branches not only become longer but more brittle.

Many well-established trees and shrubs develop root systems that reach into areas of the garden that are regularly fertilized, and these certainly do not need additional food. As long as satisfactory growth is being made and the foliage is of an attractive color, there is no need to fertilize ornamental trees, shrubs, and vines.

The gardener will find the use of fertilizer beneficial when shrubs, trees, or vines are newly planted and are small, and when the use of fertilizer will quicken growth and cause the plants to more rapidly reach the size desired to fulfill the purpose for which they were planted.

Plants on very poor soil or plants that are in a competitive situation (where roots of larger and stronger plants have invaded their root zone stealing food and water) can be benefited by applications of liquid fertilizer to the leaves of the suffering plants. Liquid fertilizer applied to the foliage will benefit the plants it is applied to, and not the others.

Ornamentals are sometimes cut back hard in the spring so they can renew their tops; such plants can be caused to grow more quickly if an application of fertilizer is made after the pruning is completed.

Ornamental plants do not require a special fertilizer. Any fertilizer that has a medium to high nitrogen content will be satisfactory.

Systemic Insect Control Fertilizers

A recent addition to several kinds of plant food is a systemic insect control material. Systemic tells us that the insect control material can be absorbed by the roots of the plant and will travel with the sap to all parts of the plant. Insects which damage the plant by sucking the sap of the treated plant are killed when they have ingested a small amount of the systemic material. Insects

Orchids

Duane "Bud" Close

San Diego County Orchid Society

JUNE AND JULY present us with the longest days of the year, yet not the hottest in Southern California. These usually come later in August and September. Don't be fooled, however, by the coolness of May and June, for by the end of June and early July, the night and early morning clouds will clear early and the days will be increasing in warmth.

Be sure all plants are protected from extreme heat and light. Provide additional paint, if necessary, on the glass or pull shade cloth on glass and lath.

You should be completing your potting program in June, for the next few months are ideal growing months and quite necessary for proper reestablishment of your plants. Orchids grow slower than many plants, so be patient. When a plant is not growing well, it is probably a good idea to repot it in new bark or other medium because this usually encourages the formation of new roots. However, experience has taught me that your own observations here are very important. I have seen poorly growing back divisions all of a sudden start improving without repotting disturbance.

We usually think that plants in bark for 18 months need repotting, yet many

of my plants have been in bark for 36 months and are still growing well with the bark still firm. Please note: I do tend to grow plants a bit on the dry side.

Rapid growing plants need fertilizer, so don't miss applying it now. All general need it. It is difficult to make a general nutrient recommendation as we do not all use the same mixture, so just follow directions given by your grower or the manufacturer.

If your Cattleyas are only producing one new growth per three or four bulb divisions, it might be well to increase your fertilizer program—especially the nitrates—as this will tend to increase the number of leads that a plant produces.

Again, I would like to stress that this month (June), newly potted plants should be placed where they have increased shade and humidity at least until active root growth is evident. Then they may be placed on the bench with active growing plants. Remember, poorly growing plants need conditions similar to that of freshly repotted plants.

In general, Cymbidiums are now past their flowering season and the potting of these plants should be complete. Remember, plants in 6, 7, and 8 inch pots

can usually be shifted intact to larger containers as they probably have very few leafless bulbs. Larger plants usually require division to remove excess back bulbs and old soil. Be sure to remove all dead or hollow roots when repotting.

Cymbidiums need lots of light during the summer to produce flowers in quantity for next fall, so give all the light possible short of burning. These plants have light needs almost opposite to most orchids during the summer months.

Phalaenopsis should be repotted now if they have finished flowering. This genus of orchid makes most of its new leaf growth during the long days of summer and flowers more during the shorter days of fall and winter.

Cypripediums and paphiopedilums should be repotted by July 1 as rapid growth will soon be evident.

A note of interest on *Cymbidium ablenchilum* and *Dendrobium nobile* type: keep these plants a little on the dry side until active root growth is quite evident, then use large amounts of water and fertilizer. Too much moisture on these new growths before roots are evident often produce fungal black rot.

Don't forget the beautiful exhibits of all flowers including orchids at the San Diego County Fair the end of June and early July.

Duane "Bud" Close is the chairman of the Science Department at Grossmont High School. He has been growing orchids in San Diego for 25 years.

which damage some plants by sucking the sap are aphids, red spider, thrip, and possibly white fly. Insects which feed on the plant by eating or chewing are not controlled by systemic poisons. Systemic poisons are more effective when they are applied to plants before the insects they control appear. Some systemic poison can be purchased in a form that can be applied to the above-ground parts of the plant as a spray, and, when used as a spray, the systemic enters the plant through the leaves and stems. It will move in the sap to all of the above-ground parts of the plant.

The roots of fruit trees or other plants which produce edible parts may grow into a soil where systemic poisons are being used and the edible parts can become contaminated. The danger can be reduced by digging a trench between the beds, cutting the roots and preventing the poison from being transferred to the fruit-bearing plant. There is less danger

if a spray application is used. The trench should be dug each time the poison is applied.

Plants which benefit from Rose Food

Rose Food[®] supplies a complete diet for roses. It is an excellent fertilizer, with or without systemic insect control material, for use on annual and perennial flowering plants as it is balanced to produce both growth and flowers. Some plants which respond well to it are: stock, snapdragon, pansy, sweet pea, flower producing bulbs—iris, daffodil, ranunculus, etc. It may be used to feed shrubs at times when both growth and flowers are desired. Hibiscus, Bird of Paradise, and oleander are but a few of the many kinds of shrubs which would be helped when they indicated a need for fertilizer by an application of "Rose Food."

Plants which benefit from Camellia Food

Packages of "Camellia Food," both dry and liquid, have on their labels directions for the amounts to be used for different sized plants. These directions can be considered as maximum amounts and applications which need to be made. There are conditions where less frequent applications may be wise. It may be called "Acid Food" and contains the major plant food elements and certain of the micro-elements. It creates an acid condition in the soil, or, at least, doesn't make the soil alkaline. It should be used on camellias.

"Camellia Food" is an excellent material to use on all other shade plants such as begonia, fuchsia, azalia, etc. It is also the best fertilizer for gardenias, which can be fed monthly through the warm part of the year.

George Jones is an experienced horticulturist and gardening teacher. His long experience in this area enables him to write authoritatively on our local situation.

Iris

Sanford Roberts
Member, San Diego-Imperial
Counties Iris Society

ARE BEARDED IRISES easy to raise? Yes, indeed! If you admired those exotic and colorful blooms in spring gardens and at local iris shows and plan to plant a few rhizomes—a dozen—or become an avid hobbyist grower—*caution!*

Irises are easy to grow, but, like many other fine floral plants for the garden, proper preparation of soil will give added dividends next spring.

Select for your planting site an area free of shade and eucalyptus or pepper trees and their invasive root system. A gentle slope or slightly elevated area which affords good gradual drainage and receives maximum sunlight is excellent. Good air circulation, occasional cultivation, adequate moisture, and sunshine will assure success with most varieties.

Generously apply dairy manure (avoid steer due to salt content), compost or humus material, spade thoroughly and allow two weeks, if possible, for mellowing. Chemical fertilizers may be used instead of dairy manure or compost, but avoid direct contact of rhizome and fertilizer.

The distance between rhizomes is a matter of your particular plans. A general distance is from 14" to 2' apart. If an immediate clump effect is desired, plant 8" apart in groups of 3 or more of one variety or of individual varieties. If space permits—3' apart in all directions will allow more than one year of growth without dividing and replanting

each summer.

Irises are fine in landscape plantings, in formal rows, or in perennial beds and borders.

Rake the previously prepared planting area smooth. Soil should be moist. Set all rhizomes in the same direction. It is preferable to plant all rhizomes with the fan facing north. This allows ample sunlight to reach the center of the clump. Place the rhizome in the appointed planting hole, barely cover, but firm the surrounding soil.

After completion of the new planting, place markers or personal labeling system. It is wise to sketch or diagram the planting for permanent records. Water the planting well. About two weeks later, a chemical fertilizer—analysis of 10-12-12 or 12-12-12—may be applied around the clump and lightly raked in to be followed by a watering. This application of fertilizer is not necessary if it was included in the preparation of the planting area. Keep the planting free of weeds. If you cultivate, remember to do it shallowly. You may desire to remove dead or brown leaves from the rhizomes—some do—some don't. Clean cultivation is the finest precaution for iris troubles.

Established plantings that do not require digging and replanting should receive a generous application of 10-12-12 or 12-12-12 in June when the flowering season is ended. We plan a liberal application of organic sludge to be followed

by a raking and thorough watering.

Varieties to plant could fill pages and some fine ones would still be omitted. After careful consideration we list a favorite sixteen that have pleased us during the past years. Most were introduced during the past decade and are moderately priced. Several are rebloomers in Southern California.

1) Artist's Dream (Sexton '65) A *plata* with white standards, bordered violet and white falls.

2) Babbling Brook (Keppel '66) One of the bluest of light blues.

3) Bang (Craig '55) Of all the reds—still our favorite.

4) Commentary (Hobson '63) Widely acclaimed blend of exotic colors.

5) Grand Alliance (Plough '65) Wide, nicely ruffled spectrum violet.

6) Debby Rardon (Kuntz '66) Lustrous milky white with soft rich edging of creamy yellow on all petals.

7) Grand Spectator (Haney '65) Huge white ground *plata* with standards washed gold and cream with falls dotted and edged crimson.

8) Haunting Rhapsody (Ghis '68) Unusual lavender-tinged color with a bluish beard.

9) Laurie (Gaulter '66) Blend of rose pink, lilac and amethyst.

10) Lucille Tolman '66) Wide ruffled cream with flaring and fluted falls with an edge of light buff.

11) Malabo (Ghis '66) Light silvery blue standards and red-violet falls. Beautiful—a *must have!*

12) Meditate (Ghis '67) Cool white fall with a blue-white beard.

13) Moon River (Sexton '63) Smooth antique gold self. If we were limited to but one iris it would be this one.

14) Mystic Mood (Ghis '67) Large ruffled blooms with light blue-lavender standards and deeper textured falls.

15) Pacific Waters (Tolman '66) Wide, ruffled, heavily substantiated blue with undertones of lavender and a fine eye.

16) Riva Frey (Tetrell '66) Wide petaled, heavy substantiated glittering yellow with lightest apricot in center. Grow it and stand back!

Two that were hybridized in Escondido, California by the late Tom Craig are Coolhead ('65) and Jackpot ('65). Both have oyster white standards with deep blue-violet falls. Coolhead's standards are edged light blue. Jackpot's standards are solid deep blue. Both superb.

One from England is Starched Fabric (Brummitt '65) White standards with blue glow and white falls with yellow at halts. Superb!

Of all the new "raves," "Must-haves," "can't do without it" varieties—one lights our fire—Truche (Hamblen '69). An exciting bicolor with pink standards flushed violet at mid rib; falls violet with blue overlay and lighter violet border. Grand and expensive! Ah! Come Spring and next year's blooms.

Sanford Roberts is a hobbyist who cares for 3,000 iris rhizomes in his three-acre yard. He is well qualified to advise the new grower on his iris.

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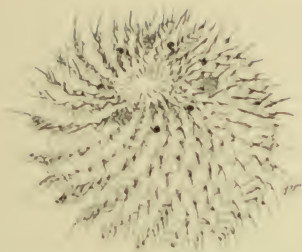
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MAMMILLARIA ZUCCARINIANA

A FAVORITE CACTUS of some friends of mine is MAMMILLARIA ZUCCARINIANA (miam uh-lah' re-uh zu'-ka-re-nah' na), one of the largest of the globular mams. This plant is normally single with a body up to ten inches and eight inches broad with a depressed top. Visualize a volleyball and you have the approximate size! Seeing a full grown plant is somewhat of a surprise when you are used to the usual small sized mam. The tubercles, with milky sap, are about one

third inch high and are pyramid shaped. The axils between the tubercles are quite woolly when young but lose the wool by the time the seed pods arise.

The areoles are woolly when young, also, but become bare with age. There may be three or four white bristles as radial spines but these also fall with age. The usual two central spines are arched and are opposite. The upper one is rarely more than a quarter inch in length, but the lower one may reach one inch. If there are three or four central spines, the extras are more like the upper spine.

The flowers are borne in a profuse ring in the axils around the top of the plant like other mams, over a period of months during the winter. They are nearly an inch long and as broad. The color may be described by different persons as being from magenta to purplish-pink to purple. The fruits, which appear several months later, are bright red and may be up to a half inch long.

Cactus

L. N. Phelps, Ph.D.
San Diego Cactus & Succulent Society

The species was described by Martius in 1832. The genus name refers, of course, to the nipple like tubercles. I have been unable to trace the species name, and infer that it honors an individual by the name of Zuccarini. The habitat of this cactus is the state of San Luis Potosi, Mexico.

M. ZUCCARINIANA thrives well in any good cactus soil (about 25% organic matter with excellent drainage) in part to full sun. In part sun the color of the plant will be a deep green. In full sun the greatest beauty is expressed as the plant takes on a beautiful deep purple color. This cactus, as well as most others of the genus, does very well in a spot only slightly larger than the diameter of the stem. It should respond well to light feedings two or three times during the growing season.

Leroy Phelps is an Associate Professor of Microbiology at San Diego State who has been a cactus hobbyist for the past fifteen years.

Succulents

Jim Stalsonburg
President, San Diego Cactus & Succulent Society



ALOE VARIEGATA

A GARDEN WITHOUT an aloe is a garden without love. Aloes are often mistaken for agaves as many species have a superficial resemblance. Aloes are members of the Lily Family and are found chiefly in South Africa, while agaves are members of the Amaryllis Family and are found in the desert and in semiarid regions of the Western Hemisphere. Fundamentally, not only are the flowers different but they are borne in a different manner. The agave flower emanates from the growing point of the plant, consequently the flowering rosette dies after bloom along with the plant. The inflorescence of the aloe arises from a leaf axil and it does not affect the plant's future growth.

Aloes are tender succulents with thick fleshy leaves which store large quantities of water during the rainy season and thus are able to withstand long periods of drought. Many become tree-like with

stout woody stems, while others form dwarf clumps of stemless clustered leaves. Aloe comes from the old Arabic name for the plant. Centuries before Christ the resinous juice of leaves was used medicinally for a myriad of ailments, both internal and cosmetic. The leaves are usually spear shaped, with the margins either lined with a horny material or toothed. The surface is dark green, grey-green, or reddish, and often flecked or striped. Bell-shaped flowers are orange-red to yellow and are borne as a club-like cluster on one spike or a many branched cluster like an exploding fireball. They last for many weeks.

ALOE VARIEGATA is in full glory in February. The specific name *variegata* (va-ri-e-ga-ta) is derived from the rhythmic, transverse splotches of white that adorn the otherwise dark green leaf. This, along with the erect leaf, give the illusion of a Partridge, hence the nickname "Partridge Breast Aloe". Variegata hails from Cape Providence in South Africa.

Jim Stalsonburg has been an avid collector and grower of cactus and succulents for ten years.

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SUCCULENTS (cont.)

which is very much like San Diego County with sub-tropical coastal plains, inland mountains and an arid desert beyond. Variegata comes from the 'other side of the hill', so to speak, and because of the dry air it seems to grow better inside the home than in a greenhouse. It shows a full measure of appreciation for the Southern California outdoors.

The stem is very indistinct. It is covered closely by triangular shaped leaves five inches long and in a three leaf rosette. It grows to a height of one foot. The leaves are concave on the inside and keeled on the outer side giving the plant a three dimensional perspective. The margins are horny with minute teeth. The flowers are reddish and droop in a cluster from an unbranched spike.

Propagation is done chiefly by removing the numerous underground shoots as well as shoots above the ground in the leaf axils. Caution should be taken to make sure seeds are obtained from a pure source because of the tendency to hybridize with neighbors.

Water thoroughly during the growing season and keep it dry in the off season. Although *A. variegata* comes from an area of poor soil, it does quite well in a mix of two parts organic to one part sand with a dash of lime to keep the pH from becoming acid. Most aloes tolerate full sun, but are subject to scald and tip burn, so protection from too much sun should be considered.

There are many species of aloes and they offer a wide spectrum of shapes, colors and interest. As a matter of fact, aloes could develop into a life's work. A good reference for this most interesting plant is "ALOE OF TROPICAL AFRICA AND MADAGASCAR" by Reynolds, or you might drop a line to Helen Crane, 305 Frontage Rd., San Ysidro, Ca. 92073, our local authority.

Fuchsias

James Watson

President, San Diego Fuchsia Society

FUCHSIAS THRIVE IN THE SHADY part of a garden where the air is fairly moist. The area must be well drained during all seasons.

Temperature

The growing area should be comparatively warm throughout the year and free from killing frosts. The desirable garden temperature should be from 35 to 70°F. (Temperature range for fuchsias grown in pots is 50 to 60°F.)

Soil

Fuchsias should be planted in a fertile, well-drained soil. Lime should be avoided. It is easier to control the soil mixture for pot culture. A popular potting mix consists of:

- 2 parts (#4 Monterey) sand
- 2 parts loam
- 1 part leafmold
- 1 part peatmoss

Hoel and Horn at the rate of 4 oz. to a cubic foot of mix. Bonemeal at the rate of 1 quart to a cubic foot of mix.

Planting

As new growth usually starts with the first warm days of early spring, transplanting just before this new growth pushes out (as soon as the cold weather is past) is the ideal time.

A container plant can be transplanted at any time of the year, though.

Landscaping

The fuchsias can be used as specimen shrubs or in combination with other shade plants in the garden. They are attractive in a lath house, in hanging baskets, or in pot culture. Fuchsias can be espaliered or trained into the popular tree form.

Fertilizing

In the spring, start feeding regularly with a good commercial nitrogen fertilizer. All organic fish emulsions fed twice a month are good for lateral development, color, texture of foliage, quality and size of blooms. Some growers

prefer the safe, slow-acting, low nitrogen, coarse-grained soil fertilizers. Whatever you use, read the label and follow the directions on the fertilizer package. This will save you time, money, and plants.

Good Varieties

Several of the new introductions which one might try are: *Anniversary*, *Bob Kennedy*, *Wine and Roses*, *Tough of Fruit*, *Her Hybrids*, *Curly Q*, *Aunt Julia*, and the low ground cover fuchsia.

Training

Proper training of potted fuchsias must be started early. When side laterals appear, let them produce two or three sets of leaves and then carefully pinch out the growing tip of the laterals. From the leaf node of each pinched tip, two or more branches will begin to grow. Pinching causes the plant to produce more branches, and the amount of pinching done determines the future size and shape of the plant.

Pests

Fuchsia plants should be kept free of insect pests. This requires regular spraying every 8 to 10 days. Some of the pests are: caterpillars, white fly, thrip, red spider, mealy bug, snails and slugs, and aphids. Most can be controlled by use of a good multi-purpose insecticide or malathion. Before spraying with an insecticide, plants should be well watered. Never spray dry plants.

Probably no other plant responds as abundantly as the fuchsia when its relatively simple requirements of shade, water and fertilizer are met. Considered by experts to be Coastal California's most valuable shrub, it adorns gardens from British Columbia to the Mexican border. Often entire gardens and outdoor living rooms are devoted exclusively to this beautiful flower.

One can obtain more information on the growing of Fuchsias by attending a local Fuchsia Society meeting. Guests are welcome.

Jim Watson is a nurseryman who has been growing Fuchsias as a hobby for many years.

Roses

Richard D. Streeper
San Diego Rose Society

SUMMER IS ONE of the more difficult times in San Diego's rose growing season. The early spring foliage is getting old and if mildew has been present, leaves will show the scars. This is also the time of year that mites can cause problems with foliage and thrips cause problems with blooms. All of these problems can be solved with regular attention and just a little perseverance. However, before a problem can be solved it must be recognized. This article will deal with the recognition and with the avoidance of these problems.

Mildew is easily recognized by a white growth which appears on the leaves and stems of roses. It most commonly appears on new growth and is most commonly found on the top side of leaves. However, on some varieties of roses at certain times of the year it may favor the bottom side of newly forming leaves. Once the mildew has been killed by fungicide the white powdery appearance will no longer be present. A greyish-white residue may remain if the mildew has been especially heavy. Otherwise the affected part will merely appear green but lacking in freshness.

The easiest and most positive way to identify mites is with a low-power magnifying glass. A three power glass is adequate and a seven power glass is ideal. This will enable you to positively identify

both the mites and their eggs. Mites are very small and, without the aid of a glass, look similar to large rose pollen grains, or large grains of dust. They are quite active but their movement is sometimes hard to detect without a glass. With a glass they look like a spider and most of the types that bother roses have two reddish-brown spots on their backs. They always live on the bottom side of a leaf and generally have a preference of one type of bush over another and frequently one location on the bush over another. Generally they like leaves with texture and prefer new growth near the ground. The eggs are spherical and clear in color. They may be nearly as large as the mites. If present at all, they will generally be seen in significant numbers over much of the leaf and mites will also be present on the leaf. Infested young leaves may have light specks on the top of the leaf at points where mites have pierced the underside of the leaf. Mature leaves appear to lack vigor and with significant infestations, the leaf will turn grey-green or brown and fall off. The underside of the leaf may have a slight silvery cast at about the time the leaf falls from the plant.

If blooms do not open or have brownish blemishes on the petals, it is nearly certain that the problem is caused by flower thrips. These flying insects are small but easily visible. They are thin but long and dark in color. They move rapidly and if exposed by the peeling

of petals from a bloom, they will rapidly run for cover back into the flower. They can be detected by peeling the petals of a tight or balled bloom, or by shaking an open bloom. In an open bloom, they will spend most of their time near the base of the petals near the inside of the flower.

It is not the intent of this article to suggest control of the above mentioned problems. That has been discussed in several prior articles and there are many persons who can provide solutions once the problem is identified.

It should be recognized that disease and insect problems can be sharply reduced or eliminated through selection of plants. For example, thrips have a strong preference for white and yellow flowers. However, Snowbird, Virgo and Iceberg, three good white roses, are not badly damaged even if thrips are present. Thrips also like pink roses but have definite preferences in this color, possibly related or keyed to fragrance. Bewitched is a good pink rose which is not particularly bothered by thrips. They generally do not like red roses. However, they are attracted to Chrysler Imperial and Red Radiance and frequently cause these roses to ball.

Mites generally like rough foliage and are not a problem on leathery or glossy leaves. If mites cause persistent problems despite spraying, inspect other plants in the area, particularly low growing broad leaved weeds. These provide an excellent home for mites. If weeds are eliminated and plants are sprayed, mites can be controlled on any kind of rose.

Some types of roses are highly mildew resistant and other types are very susceptible. As a general rule, roses with dull foliage, particularly older types of red roses, are quite susceptible. The following roses grow well in San Diego and have high resistance to mildew: Bewitched, Columbus Queen, Winifred Coulter, Iceberg, Roman Holiday and Joseph's Coat. Most red roses have some susceptibility to mildew but San Antonio is a good red rose which is not greatly affected. All of these roses will grow fairly well with no mildew control spray.

If convenient, soaking potted plants from the bottom—in tubs or pans—then letting them drain is better than watering from the top. Use a liquid fertilizer mixture for the soaking and give the plants a bonus.

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Sweet Equivocal Basil

Josephine Gray

IN ALL THE HERB LORE which I have ingested, I have found that Basil has the greatest amount of meanings laid to it. The East Indians consider it a holy plant and grow it in their temple courtyards where it is sacred to Lord Tulsi. The legend is that it gave him shelter when he was stalking an evil demon who had stolen his wife. It bears his name, Tulsi.

In the Western world it has had a connotation of evil and jealousy; ancient Greeks used it as a symbol of hatred, poverty and despair. It had to be sown with cursing and abuse to flourish. In Italy, it is the plant of love, and an offered sprig of Basil is an open declaration. Thomas Tusser, that delightful old boy who wrote so much of his gardening advice in rhyme, says of it (in prose this time) "*Most people stroak Garden Basil which leaves a grateful smell on the hand and he will have it that stroaking from a fair lady preserves the life of Basil.*" So curse it if you must as you sow it, but ask its forgiveness in a caress as it grows.

The seed has a mucilaginous coating which, if not planted deeply enough and patted down firmly, buoys the seed to the surface of the soil when wet. I wonder if this could have been the original reason for the cursing of it? Not long ago, I sowed a pot of the precious Lemon Basil and simply pressed the seed down with an old kitchen fork. I set the pot in a pan of water and went on with other sowing. When I looked to see if it had absorbed enough water, the whole surface was covered with an opaque mauve opalescence. The soaked seed had risen and expanded and, of course, had to have soil sieved over it.

Basil is not hard to grow and no herb gardener who is even the least bit of a cook will do without it. Everyone of its several varieties is useful and delightful. Dark Opal is a charming border to any flower garden and makes fragrant ruby colored vinegar. The dried leaves which are bottled for sale come from the foot high bright green plant which garden catalogues call "Sweet Basil"—why, I don't know, since they're all sweet. One of the most delightful varieties is Lemon Basil, but it is not to be found in nur-

series or catalogues, and if you want it, you must be fortunate enough to get it from a friend who got it from a friend! Again, I don't know why, for it is no more difficult to grow than any other.

Like most of the herbs, Basil prefers a light sandy soil, but will accommodate itself to almost any earth you have if it isn't pure clay which bakes as hard as a pot in dry weather. If you have such soil, the only thing to do is to incorporate a little humus into it. Break up the area you want to plant (but do not do it when the soil is sopping wet), add a generous amount of gypsite and whatever you are using to make humus, hack it in as best you can, and water it down. Then leave it alone for a week or two. In the meantime, as you pass by, you may give it a poke or two to see how it is getting along. In a shorter time than you can readily believe, you will be able to break up the clods and work the soil.

Basil is an annual which must have warm soil and warm weather in which to germinate. Plant the seeds when the soil warms. When your seeds have germinated and the little plants have become more than a green line of fuzz, be strong-minded and thin them to sit four to six inches apart. You can drop the little thinned seedlings into your salad bowl. Begin to use the leaves any time the plants are large enough to be established, but if you want to harvest for vinegar or for drying, you may snip them when they first come into bloom, and then have a second or third cutting later on. Small amounts may be slipped into sandwich bags and frozen without blanching.

The most practical way to dry leafy herbs, such as Basil, is to tie them into loose bunches, put them in a brown paper bag and close the mouth around the stems, securing the whole with a 'twister' or string. Hang them in an airy place to dry for several weeks. When you store them, put them either in opaque jars or keep them in a cupboard where the light doesn't get to them. They must be perfectly clean before they are dried, of course, but it is very easy to wash them with the hose the night before you plan to harvest. Cut them early in the morning before the sun gets to them.

Besides using Basil in salads, vinegars, and tomato dishes, if you will keep a lit-



PHOTO BY ANNE GALLOWAY

Eriogonum fasciculatum—Buckwheat

Louise De Groot

IN JUST AN ERRANT BRIDE runs up and down the canyons of Southern California, leaving mounds of her creamy white bridal lace here and there behind her. The accustomed eye knows them for the massed bloom of California Buckwheat, but from the seat of a fast moving auto, they are like heaps of soft, airy, Alençon lace.

Examined closely, this buckwheat is a scraggly bush of no particular shape. Its stiff stems, two or three feet long, have grayish bark which seems to be peeling off in shreds. The new growth has a reddish cast and is thickly studded with bunches of leaves, which are slender, and under an inch long. The branches terminate in one or more flat topped flower clusters, made up of many tiny white blossoms with red trimmings, and tightly closed red buds. At close range, the blending of white and red gives the whole head a pale and lovely pink look that is quite enchanting.

The shrub is pretty only when in full bloom, yet it plays a great part in coloring our canyons with beauty in all seasons. For as fall advances, the dead heads of the flowers turn to cerise, then to brown, and finally to a rich mahogany color that gives shading and variety to our dry brown hills. And when, as in the early summer, a great deal of it blooms at once, it is as lovely as a bride's diaphanous veiling.

The bouquet of it near a bowl of fruit it will keep the fruit flies away. I am told that a little pot of it on a picnic or barbecue table will keep away the flies. This beautiful little herb has so many uses, don't be denied the pleasure of its company.

Josephine Gray is an herb hobbyist who delights in the history and legends of herbs.

Language of Rocks

Barbara Jones

Number Two of a Series on
Japanese Garden Design

IV BASIC ROCKS

8

ROCKS ARE ONE OF THE MOST IMPORTANT basic elements of a Japanese Garden. Taste in shapes and numbers have varied through the centuries. In fact, one can identify the period in which a garden was built by the rock usage. But, for any period the primary requirement was and is that the rocks look stable (not top heavy) and do not lay on the surface.

Rock arrangement is an art which is unique to the Orient. It is not like a traditional art as the garden artist must find the natural stones and then combine them to represent nature. He must pass the ordinary and look for the rare stones with character. Igneous and solid rocks are preferable to porous volcanic types.

Study nature! If a mountain scene is desired, rough/lichen covered rocks should be used. To create a water scene, rounded stream smoothed rocks are desirable.

There are many "schools" of rock arrangement. In some one must learn to recognize the front of a rock and then learn formulas for placement; in others one learns to balance the force of a rock (after learning to determine which direction the force in a rock is exerted).

The most popular way to arrange rocks is a method of balancing positive and negative (male and female) rocks. All vertical rocks are male (+), all horizontal rocks are female (-). A low-vertical rock (B) can be considered under some circumstances to contain both positive and negative.

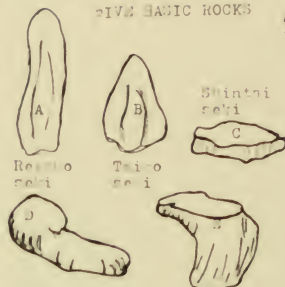
Barbara Jones studied Japanese gardening in Japan for five years. She completed the course on Japanese Garden Design at the Institute of Japanese Art in Tokyo.

Many people think that the rock shapes shown in the drawing are the only basic rock shapes used in a Japanese garden. Rocks of any shape and size can be used, and often the symbolic meaning of a particular rock is known only to the designer (the usage is not a universal rule).

In the 18th Century, *newashi* (gardeners) began to intimate that gardens were designed on great and secret rules that they alone knew. As members of a new monied class were attempting to build grand houses and gardens, they accepted these "stories" and hired these men to build their gardens. This period is considered by Japanese experts to be the decline of Japanese garden design, as the gardens became unimaginative and stereotyped.

At the beginning of this period a noted Garden designer, Token Anezawa wrote a small book on garden design. In it he gave a group of exercises which he advised the reader to try in order to develop skill in rock arrangement. He never intended it to be anything but a practice exercise. Unfortunately, his examples were adopted by the gardeners and used as hard-fast rules for rock symbolism, shape and placement. These five basic rock shapes are a "must" even today. As they are used "everywhere," one might as well learn how to read them.

Names commonly given to the rocks shown in the picture are: A—tall, vertical (guardian); B—low, vertical (spiritual); C—flat (heart); D reclining; and E—branching (branching). (The Japanese still attempt to keep design secret by the omission of certain facts and ideas.) One



Shintai-roki Eikou-roki

of my teachers was more enlightening—so—now give the rocks these meanings: A—guardian or master of the garden; B—God; C—mass of people; D—abundance of the land in animals and or vegetation and E—change. Now if you combine an A with a C it will read "a guardian of the people"; a B with a D and an E will read "God causes change in the abundance of the land"; an A and a D will say "the master of this garden protects his land." Isn't it fun? Often one of these arrangements is placed near the entrance of a garden so that the initiated can read the theme or purpose of the garden.

If you search out just size rocks of these approximate shapes and practice arranging them in sand in a pan, you will soon become accomplished in rock arrangement. Then try it on those big ones out in the yard. Arrange away, and the next issue will explain classical arrangements of 2, 3 and 5 rocks. Never arrange 4 as this is bad luck.

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SIMPLICITY IN FLOWER ARRANGEMENT

Dorothy Marx

SIMPLICITY, the elimination of all unnecessary detail, should be the goal of every flower arranger.

Avoid using not only too much plant material but too many kinds and too many colors. Let one color and one kind of flower be dominant. Group your colors and varieties. When separate foliage is used, place it apart from the flowers to make a setting for them rather than mixing with them for a "bouquet" look.

Think of simplicity as the opposite of clutter. It is.

Dorothy Marx is a National Council of State Garden Clubs Judge with Masters Certificate. She teaches and lectures on flower arranging.

"SOPISTICATION" was the very appropriate title of the class in which this imaginative arrangement by Mrs. Leo Orstrom of Poway won a blue ribbon and "Best of Section" in the San Diego County Orchid Show of April 5-5, 1970.

The modern black container with two openings on a freefirm black base created a challenge which Emma Orstrom met very well indeed. Willow branches which emerge from both openings of the container have been sprayed black to pick up the black of the container and base and provide a graceful use of space and the smart sophistication needed to fill the glass. The green cymbidium and the single philodendron leaf are placed with precision. The use of only one leaf showed commendable restraint.

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EPIPHYLLUMS

Richard A. Hartford

HAVE YOU RECENTLY COME into a friend's garden and seen in a sunny corner a shrivelled, dried, and neglected cactus with a beautiful blossom? Probably you asked, "What kind of a plant is that?" and you could have been told, "It is an Orchid Cactus or a Star Cactus." Both of these names would be wrong, as is the condition of the plant. It is probably not an Orchid Cactus nor a Star Cactus but a hybrid Epiphyllum and if it were planted in the proper soil mix and placed in a semi-shaded spot, it could be a beautiful plant with gorgeous flowers.

The first knowledge we have of Epiphyllums goes back to the year 1691, when a Spaniard by the name of Hernandez found these plants in the jungles of South America. They were growing as epiphytes in the crotches and fissures of the bark of trees, feeding on decayed matter, but not parasitic. They were probably night bloomers and white in color as are most of the known species plants. Hernandez took them to Europe where the hybridizers of those days crossed them with other related Cacti and brought out the Deutsche Kaiserin Hybrids which became very popular in Europe. Later, many other species plants were discovered in South and Latin America. A few of the well-known European Hybridizers were Bornemann, DeLaet, Nicolai, Schumann and Curt Knebel.

In the late 1800's Epiphyllums were imported into the United States from

Europe and immediately became very popular, especially around Philadelphia. In the 1950's several known Western hybridizers in the Los Angeles area helped make them very popular on the West Coast. In recent years these hybridizers aided in organizing the Epiphyllum Society of America and registered many of the plants which they had hybridized and the existing known European hybrids.

Now, to return to the name 'Orchid Cactus.' It was during this period that two commercial growers tried to get the name of the hybrid changed from Epiphyllum to Orchid Cactus. They felt that this would make the plant more salable as some people did not know how to pronounce it. It is pronounced Epiph-ill-um, and the Epiphyllum Society of America (ESA) has never recognized it by any other name. The name Epiphyllum is definitely established in our country and should not be tampered with. The hybridizer Knebel stated that "We should hold to what has been accepted because usually a name represents a part of what we love in anything. The name comes from the early Greek language and means 'upon the leaf.' Early growers thought the segments were leaves, in fact, they are branches.

How to Propagate a Plant from a Cutting

The Epi does not run true to its parent plant from seed. To keep the strain true and to quickly establish another plant, a cutting should be taken from the parent plant. It takes from six to eight years to get a profusely blooming

plant from seed and approximately two years from a cutting.

Secure a good cutting from 6-10 inches long from a registered plant in July or August after the plant has bloomed. It is better to use a hardened, matured branch that is from 12-18 months old. The branch should be cut diagonally toward the mid rib. The cutting should be dipped in a rooting hormone (and labeled) and placed in a cool, dry place for the cut surface to callous for at least five days (or longer). There is no need to hurry in planting, as cuttings have been known to grow after being seasoned for a year. I, personally, like to plant my cuttings by the middle of August so that they can develop roots before the December to February dormant season.

Take a small pot, place about $\frac{3}{4}$ " of pea gravel in the pot, fill with soil mix to $\frac{1}{2}$ " from top of pot. Place the cutting 1-1 $\frac{1}{2}$ " deep in the soil and place a stake behind it. Tie the cutting to the stake with raffia or a plastic tape. Never use the paper covered wire ties as the paper deteriorates and the wire will cut the plant. Pack the soil firmly around the cutting and print the name of the hybrid on a label fastened securely to the stake. (There are over 5,000 registered hybrids with just a slight variation in color, shape and form of flower. If a name is lost, even a well-trained expert will hesitate to identify a plant.) When planted, withhold all water for approximately five days and set in a cool shaded place. Start watering very moderately, keeping the soil moist. Use five or six drops of Vitamin B in this water to promote root growth. The cutting should establish

Richard Hartford has been growing 'Epi' in his home in Spring Valley for ten years. His article is the outgrowth of lectures he has given on 'Epi'.

roots in six to eight weeks and start to show side growth. At this time start to water it regularly and feed it. Some cuttings will put out buds, but "be strong" and remove these buds. The buds will sap the strength from the plant and most likely fall off just before blooming.

When the plant is one year old transplant to a larger pot, but remember an eight-inch pot will hold the average-size full-grown Epi. The branches should be supported by tying them to stakes or a trellis-type support. They can be placed in a hanging basket, as they are naturally pendant. It allowed to lie around the pot they can and will attract pests.

The plant should have beautiful blossoms in about two years. It will bloom yearly in the months of May, June or July. Some will bloom twice yearly.

After the blooming season, prune and shape the plant. Use the cuttings to start other plants. Never prune more than one-fifth of the plant during the entire year.

Type and Size Container

Tin cans, that have been dipped in or coated with tar to prevent rust are satisfactory. Never use cans which have contained oil or creosote. Wooden tubs are fine, but they rot quickly. Clay pots are porous and have a tendency to dry out quickly. Plastic pots may become brittle with age and are expensive, but I prefer them for they do not rust or rot and will retain the moisture. The containers must have holes in the bottom and all but the clay pots should have holes in the sides at the bottom for proper drainage.

Remember that this plant originally grew in the trees in a crowded area, so they do better if quite root-bound. An eight-inch pot is large enough for the average three-year-old plant. You can start your cuttings in a much smaller pot and transplant as they grow, according to the size.

Soil Mix to Use

There are many differences of opinion as to what type to use. The trained specialists all agree that the soil must be semi-acid, cool and moist (but never dry or soggy), well aged and must drain readily. The soil mix recommended by the ESA is: 4 parts compost or leaf mold, 2 parts steer manure, 2 parts sawdust or shavings, 1 part redwood bark or an equivalent, 1 part sponge rock, $\frac{1}{8}$ part bonemeal and $\frac{1}{8}$ part (medium size) garden charcoal. Let the mixture age until all the heat is gone. This mix-

ture is completely organic and is similar to the soil found in the crotches of the trees where the plants were originally found. This mix will retain moisture but will not be soggy. Remember, if peat moss is used, it can cause an over acid condition and cause root rot by retaining too much water. A fertilizer which has not decomposed may encourage plant disease.

Moisture Requirements

Epis should be watered when they need it. In the wild, they come from the rain forests and are adapted to withstanding frequent rains with all the excess moisture being quickly drained away. I recommend that when plants start to show new growth in February or March that one start to water them gradually. It is better to soak the entire soil thoroughly, less often, than to just wet the surface frequently. When the plant has set bud, it will use more water and the soil should then be kept moist. Modern growers have learned to go from the flowering season to the growing season without withholding water because better growth is produced on the plant. If the plant is overwatered, it will cause a stagnant soil, root rot and thin withered branches.

About the first of December the plants should be allowed to go dormant by withholding water and fertilizer. Use just enough water to keep them barely moist. These plants will withstand the winter rains in California but should be protected from excessively heavy rains. Start normal watering in February or March.

Needs for Air and Sun

Although Epi are shade loving plants, they will not grow well and produce flowers without some sunshine. Too much shade will cause long narrow growth without color. Too much sun will cause them to turn yellow and cease to grow. In most places in California Epi will do well if grown in well ventilated lath houses or plastic covered houses with about 60% shade. They should be well protected from wind and not exposed to temperatures below 35° F. Generally they do not do well in glass houses, as the added protection causes soft and tender growth. In some of the hybrids, the intensity of the blossom color may be increased by the amount of light received.

I put some of my Epi in hanging baskets under the edge of my covered patio

where they are protected from the direct sun but have plenty of light and ventilation. They are beautiful and cause interesting discussions. I remove them and place them in the lath house before there is danger of frost.

Fertilizer

Thoughts on this differ. When the plants come out of dormancy in February or March, I put about $\frac{1}{4}$ teaspoon of fine garden sulphur on the soil surface and water it in. I believe that this neutralizes the soil. A week later, I give them a "pinch" of blood and bone meal and wet it in. It is high in nitrogen and may burn your plants, so don't be over generous. The next feeding is after the buds have formed. I use a mixture of 1 tablespoon of a high bloom to a gallon of water and wet the plant "good." After the blooming season, I start feeding once a month to promote new growth with a fish fertilizer (low in nitrogen) in the proportion of one tablespoon to a gallon of water. The hanging baskets require a feeding every two weeks. I feed all plants up until December when they usually go into dormancy.

Whatever fertilizer you use should be an acid type. Never use lime. A little Iron Chelate can be given about twice during the growing season. A plant that is withered and limp does not necessarily need to be watered or fertilized, but is probably "sick" and needs to be placed in a cool, shady spot to rest. This could be caused by over blooming or too much water causing root rot. Let the plant re-establish itself.

Diseases and Pests

A sunburned plant can be recognized by the yellowed condition, so give it more shade. In hot weather these plants will not be as green as in the cooler season.

Withered branches may be due to over flowering. Give the plant rest and slowly resume watering.

Bud drop is normal for this plant as it will not bear more than it can support.

Insufficient light and poor ventilation make a place for breeding snails, slugs, sow bugs, ants and cutworms. Snails and slugs thrive on these plants. Use a good dependable bait around the pots and on the ground of the lath house. If you don't like to use baits, take a flashlight and pick them off after dark.

Aphis, scale and root meales can be sprayed with a nicotine spray or malathion as directed on the bottle. Do not use any oil based insecticide. Many hob-

bysis and commercial growers are now using systemic insect control material which is added three times a year by drenching the soil. It can be added to the water when fertilizing, too.

Ants can be controlled with a good ant paste.

Epis are subject to several Fungus and Bacterial diseases but little is known of the cause or cure. Black Rot is a fungus that causes black spots in the branches. It normally lives on decomposed material. It does not help to cut off the spots and it is necessary to re-pot the plant being sure to sterilize the pot thoroughly.

A green growth of algae keeps the air from reaching the soil. Many prefer to use a thin layer of charcoal or small crushed rocks on the surface of the soil to prevent it.

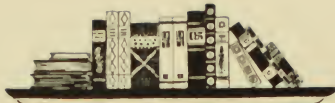
Root rot is usually caused by over-watering, damaging the roots when transplanting, letting the plant completely dry out and then starting to over-water, or improper draining caused by clogging of drain holes. Make cuttings and start new plant.

Sunken areas in the branches which give a mottled effect are not caused by a disease. These are caused by improper feeding or forcing of the plant. Changing the soil and using less fertilizer will help.

Golden or bright yellow spots on the branches are generally caused by a root disturbance which does not allow the absorption of the proper amount of water. Place the plants in a shady place and withhold all water and then start watering moderately.

Keep your plants healthy, do not neglect them, but don't pamper them, and you will have beautiful productions.

The Epiphyllum Society of America was established by a group of people who loved the gorgeous flowers and were interested in their culture. Any correspondence to them should be addressed to Epiphyllum Society of America, 2686 Paloma Street, Pasadena, California (91107). I, as a member, extend to you a welcome to join with us in the better understanding and growing of these beautiful flowers.



THE BOOK SHELF

Winter Botany. William Trelease, Dover Publications, Inc. 1967. Reprint of third (1937) revised edition. 369 pages, many illustrations. \$3.00.

Winter Botany requires the use of a hand-lens to study details such as bundle-traces in a leaf scar, etc., and a willingness to refer to the glossary for explanation of the many technical terms used in the keys and descriptions. It is an excellent reference.

The subtitle, "An Identification Guide to Native Trees and Shrubs," must be read as "Trees and Shrubs of the Northern United States," since Trelease was writing of his own section of the country. However, a great many of the more than 1,000 plants described and illustrated are seen in parks and gardens here in the Southwest. A little searching among less familiar names will turn up *Eucalyptus*, *Guava*, *Mesquite*, and *Magnolia*.

Coniferous evergreens, which appear much the same the year around, are not included.

Each page of description is accompanied by a beautifully detailed drawing of a twig, showing position of leaf scars and buds, and the texture of its bark; with cross and lengthwise sections indicating relative size and shape of pith. (The pith in a *Liquidambar* twig is star-shaped!) Enlarged drawings of buds and leaf scars show number and position of bundle-traces. In some cases a fruit or leaf (evergreen) is shown. No flowers, since this is "how to recognize a flowering plant when it is not in flower."

Each genus has its page, with the name right there at the top, followed by its family name in parenthesis. Drawings are on the left, text on the right. This consistent format makes the book easy to use.

Reviewed by Helen V. Witham

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FLOWER ARRANGERS' GUILD OF SAN DIEGO
First Tuesday, Floral Building, 7:30 p.m.
Pres. Mrs. James Terrell 465 4715
4433 Summit Drive, La Mesa 92041
Rep. Mrs. J. Otto Christensen 982 6316
4149 Redding Dr. SD 92111

COORDINATING GROUPS

SAN DIEGO BOTANICAL GARDEN FOUNDATION, Inc.
Second Thursday, Floral Building
P.O. Box 12167, S. D. Calif. 92112
Pres. Mrs. Wm. E. Betts, Jr. 223 7259
906 E. Mac Place, San Diego 92106

PARTICIPATING GROUPS

KEEBANA INTERNATIONAL CHAPTER No. 119
Fourth Wednesday, Floral Bldg. 10:00 a.m.
Pres. Mrs. R. A. 223 7259
7911 Del Mar Ave., San Diego 92121 223 7259
Rep. Mrs. James H. And 276 6398
3031 Kiersey Way, San Diego 92117

AFFILIATE MEMBERS 1989

CONVAIR GARDEN CLUB
First Wednesday, Floral Building, 7:30 p.m.
Pres. Mrs. Frank Adams 4731 Tans Dr., San Diego 92117 273 8724
Rep. Mrs. Richard Miller 284 8318
5150 29th S.E., San Diego 92116

COUNTY CIVIC GARDEN CLUB
Meets every Thursday, 12m to 1 p.m.
Garden House, Grape and 101 Civic Center
Pres. Mr. Arnold P. Landwehr 295 4704
3554 Georgia St., S.D. 92103
Rep. Mrs. A. C. Van Zee 443 6165
12254 Wintergardens Dr., Lakeside 92040

LAS JARDINERAS
Third Monday, 10 a.m. Homes of members
Mrs. Jack Bennett
6151 Capri Drive, San Diego 92120 582 9158
MEN'S GARDEN CLUB OF SAN DIEGO CO.
Fourth Thursday, Floral Bldg., 7:30
Pres. Mr. Ralph 224 1292
1178 14th St., Imperial Beach 92032
Rep. Dr. J. W. Howell 282 9131
4500 Cambridge Drive, S.D. 92116

ORGANIC GARDENING CLUB
Third Friday, Floral Building, 7:30 p.m.
Pres. Capt. C. R. Curr 3515 37th St., S.D. 92105 284 2042
Rep. Catherine O'Brien 235 0452
144 W. Upas St., San Diego 92116

POINT LOMA GARDEN CLUB
First Friday, Floral Bldg., 10 a.m.
Pres. Mrs. John 772 5880
2172 Astoria Drive, San Diego 92108
Mrs. Harold Syner 3530 Lowell Street, San Diego, Calif. 92108

SAN DIEGO BONSAI SOCIETY, Inc.
Second Sunday, Floral Bldg. 1-5 p.m.
Pres. Lester Jessiman 479 1439
281 Lake View Ave., Spring Valley, Calif. 92077
Rep. Mrs. Francis J. White 224 1122
4064 Del Mar Ave., S. D. 92121

SAN DIEGO CACTUS & SUCCULENT SOCIETY
Third Tuesday, Floral Building, 2 p.m.
Pres. Mrs. 446 1466
2374 Marlin Ave., Spring Valley, Calif. 92077
Rep. Mrs. Peter K. Kishner 276 6317
2251 Fairland Street, San Diego, Calif. 92110

SAN DIEGO CAMELLIA SOCIETY
Second Friday, Floral Building, 7:30 p.m.
Pres. Mr. Lewis 286 1910
9822 Lambeau, San Diego 92121 286 1910
Rep. Mrs. Joanne Minihagen 297 2625
6487 Flamingo St., S.D. 92121

SAN DIEGO COUNTY DAHLIA SOCIETY
Fourth Tuesday, Floral Building, 7:30 p.m.
Pres. Mr. Arnold W. Callow 226 1187
1931 Erie St., San Diego 92116 226 1187
Rep. Mrs. K. M. Middleton 286 1246
3144 Lenthle Jr. S.D. 92130

SO-IMPERIAL COUNTIES IRIS SOCIETY
Third 3rd Sunday, Floral Bldg. 7:30 p.m.
Pres. Mr. 286 1646
1748 Numa Lane, Leucadia 92024

SAN DIEGO COUNTY ORCHID SOCIETY
First Tuesday, Floral Building, 8 p.m.
Pres. Mrs. 275 1282
4314 Niagara Ave., San Diego 92117
Rep. Mrs. 461 3261
4601 San Julian Ave., San Diego 92116

SAN DIEGO FUCHSIA SOCIETY
Second Monday, Floral Building, 8 p.m.
Pres. Mrs. 286 1646
1748 Numa Lane, Leucadia 92024
Rep. Mrs. 286 1646
1748 Numa Lane, Leucadia 92024

SAN DIEGO ROSE SOCIETY
Third Monday, Floral Building, 8 p.m.
Rep. Mrs. 276 2894
1756 M. St., San Diego 92101
Rep. Mrs. 264 4446
5282 Imperial Ave., S.D. 92114

SOUTHWESTERN GROUP, JUDGES' COUNCIL CALIFORNIA GARDEN CLUBS, INC.
First Wednesday, Floral Building, 10:30 a.m.
Pres. Mrs. R. 295 1557
3671 Pines St., S.D. 92110
Rep. Mrs. 276 2791
2271 Ft. Stockton Dr., S.D. 92101

OTHER GARDEN CLUBS

ALFRED D. ROBINSON BEGONIA SOCIETY
First Friday, Homes of Members 10 a.m.
Pres. Miss Myrtle Patterson 224 1512
4622 Federal Dr., S.D. 92107

BERNARDO BEAUTIFUL & GARDEN CLUB
First Wednesday, 1:00 Seven Oaks Community Center, Bernardo Oaks Dr., Rancho Bernardo
Rep. 487 2881
12744 Loma Dr., San Diego 92128
Sunny Bernards

CARLSBAD GARDEN CLUB
First Friday, Conference Room, Public Library 1:30 p.m.
Mrs. Arthur 278 3184
4150 Seaside Road, Carlsbad 92008

CHULA VISTA GARDEN CLUB
Third Wednesday, Chula Vista Women's Club, 357 "G" St., 1:00 p.m.
Rep. Mrs. 426 5771
818 Seaford Ave., Chula Vista 92008

CITY BEAUTIFUL OF SAN DIEGO
Pres. Mrs. Raymond E. Smith 488 0639
4995 Farnes St., Pacific Beach 92109

CORONADO FLORAL ASSOCIATION
Meets 1st Tuesday, Red Cross Bldg., 1113 Adelle Lane.
Pres. Thomas J. 446 1267
107 1st, Coronado 92118

CROSSTOWN GARDEN CLUB
Third Tuesday, Knights of Columbus Hall, 3827 43rd St., S.D. 92105, 8 p.m.
Pres. Mrs. 284 2311
2815 43rd St., San Diego 92105

CROWN GARDEN CLUB OF CORONADO
Fourth Thursday, Red Cross Bldg. 1113 Adelle Lane, 9:00 a.m.
Pres. Mrs. 446 2072
181 Coronado Club, Coronado 92118

DOS VALLES GARDEN CLUB
Meets 2nd Tuesday, Alt. Paloma Valley and Valley Center, 1:30 p.m.
Rep. Mrs. 146 0010
14131 Arroyo Rd., Valley Center 92080

EL CAJON WOMAN'S CLUB (Garden Section)
1st Monday, 9:30 a.m. Members homes.
Pres. Mrs. John 444 2113
615 Bradford Rd., El Cajon 92020

ESCONDIDO GARDEN CLUB
3rd Friday, Women's Club, 240 So. Broadway, 8:00 p.m.
Mrs. Christine 781 5107
1500 Escondido, Escondido 92025

FALLBROOK GARDEN CLUB
Last Thursday, Fallbrook Women's Clubhouse 1:30 p.m.
Rep. Mrs. 128 8831
128 8831, Fallbrook 92038

GREEN VALLEY GARDEN CLUB, POWAY
Meets 4th Thursday, 9:30 a.m. Homes of members.
Pres. Mrs. 740 0747
10000 Camino, Poway 92064

GROSSMONT GARDEN CLUB
Second Monday, 10 a.m.
8155 University Ave., La Mesa 92040
Rep. Mrs. 466 1041
10000 Camino, Poway 92064

HIPS AND THORNS
Meets at Members' Homes Quarterly
Pres. Mrs. 796 7918
10000 Camino, Poway 92064

IMPERIAL BEACH GARDEN CLUB
3rd Tuesday, Imperial Beach Civic Center 1:30 p.m.
Rep. Mrs. 419 4417
7118 La Jolla Ranch Rd., San Juan 92077

LA JOLLA GARDEN CLUB
Meets: First Tuesday each month except July & August Mt. Soledad Presbyterian Church 10:00 p.m.
Pres. Mrs. 419 4417
7118 La Jolla Ranch Rd., San Juan 92077

LAKESIDE GARDEN CLUB
3rd Monday, Lakeside Farm School 7:30 p.m.
Rep. Mrs. 446 3300
10000 Camino, Poway 92064

LA MESA WOMAN'S CLUB (Garden Section)
2nd Thursday, La Mesa Women's Club 1:00 p.m.
Rep. Mrs. 446 3300
10000 Camino, Poway 92064

LEMON GROVE WOMAN'S CLUB
(Garden Section)
First Tuesday, Lemon Grove Women's Club House, 1 p.m.
Pres. Mrs. Hal Crow 466 3330
10000 Camino, Poway 92064

MISSION GARDEN CLUB
Meets First Tuesday, Asbury Methodist Church, 4102 Marlborough Ave., S.D. 92116, 8:00 p.m.
Mrs. Vera 477 5344
1172E 16th St., National City 92050

NORTH COUNTY ROSE SOCIETY
Meets First Tuesday, 7:30 p.m. at Palomar College
Pres. James A. 748 3870
1311 Espinoza Road, Poway 92064

NORTH COUNTY SHADE PLANT CLUB
Second Sat., 1:30 p.m., Home Federal Bldg., Encinitas
Rep. Howard M. 751 0415
1290 Bunting Road, Encinitas 92024

O. C. IT GROW GARDEN CLUB
Second Wednesday, S. Oceanide School Auditorium, 7:30 p.m.
Pres. Mrs. John B. Stanton 726 1466
1858 Avocado Dr., Vista 92083

PACIFIC BEACH GARDEN CLUB
Meets second Monday, 7:30 p.m. Community Club House, Gresham and Diamond Sts., Pacific Beach
Rep. Mrs. 274 6081
10000 Camino, Poway 92064

QUAIL GARDENS FOUNDATION, INC.
230 Quail Garden Drive, Encinitas, Calif. 92024
Mrs. M. J. 284 8818
10000 Camino, Poway 92064

SAN DIEGO PALM SOCIETY
Pres. Mr. James 745 1720
10000 Camino, Poway 92064

PALOMAR CACTUS & SUCCULENT SOCIETY
Third Saturday, 1 p.m., Palomar College Foreign Language Building, Room F22
Rep. Mrs. 745 1720
10000 Camino, Poway 92064

PALOMAR ORCHID SOCIETY
Meets third Wednesday, 7:30 p.m., Avocado Inn, 114 Hillside Terrace, Vista
Rep. Mrs. 722 4881
10000 Camino, Poway 92064

POWAY VALLEY GARDEN CLUB
2nd Wednesday, 9:30 a.m. "Haleys", 1511 Poway Rd.
Rep. Mrs. 748 4811
10000 Camino, Poway 92064

RANCHO SANTA FE GARDEN CLUB
Second Tuesday-Club House, 2:00 p.m.
Rep. Mrs. 756 1926
9121 San Redondo Road, Rancho Santa Fe 92061

SAN CARLOS GARDEN CLUB
Fourth Tuesday, San Carlos Club, 4555 Golfcrest Drive
Rep. Mrs. 748 4811
10000 Camino, Poway 92064

SAN DIEGO BRANCH AMERICAN BEGONIA SOCIETY
Fourth Tuesday, Asbury Methodist Church, 8:00 p.m.
Rep. Mrs. 748 4811
10000 Camino, Poway 92064

SAN DIEGO BROMELIAD SOCIETY
1st Thursday, 8 p.m. Porter Hall Clubhouse (8425 Univ.), La Mesa
Rep. Mrs. 778 1174
10000 Camino, Poway 92064

S.D. CHAPTER CALIF. ASS'N NURSERYMEN
Second and Fourth Thursday, 7:30 p.m.
Rep. Mrs. 412 1178
10000 Camino, Poway 92064

SAN DIEGUITO GARDEN CLUB
Third Wednesday, Seacoast Savings Building, Encinitas 10 a.m.
Rep. Mrs. 813 4918
10000 Camino, Poway 92064

SAN MARCOS GARDEN CLUB
Rep. Mrs. E. C. 744 0276
10000 Camino, Poway 92064

SAN MIGUEL BRANCH, AMERICAN BEGONIA SOCIETY
Second Wednesday, Porter Hall Clubhouse, La Mesa (8425 Univ.) 8:00 p.m.
Rep. Mrs. 466 7931
10000 Camino, Poway 92064

SANTA MARIA VALLEY GARDEN CLUB
Second Monday, Ramona Women's Club House 5th and Main, 9:30 a.m.
Rep. Mrs. 789 1104
10000 Camino, Poway 92064

SANTÉE WOMEN'S CLUB Garden Sec
Pres. Mrs. 448 0291
7118 W. W. W. Ave., SanTEE 92071

VISTA GARDEN CLUB
First Friday, Vista Rec. Center 1:00 p.m.
Rep. Mrs. 740 0717
10000 Camino, Poway 92064

VISTA MESA GARDEN CLUB
Second Tuesday, 2 p.m. Family Association Center
Rep. Mrs. 465 0910
10000 Camino, Poway 92064

CALIFORNIA GARDEN
San Diego Floral Association
Floral Building, Balboa Park
San Diego, Ca. 92101

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